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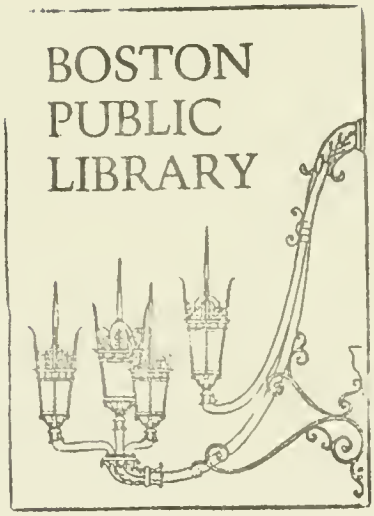
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U.S. CUSTOM HOUSE

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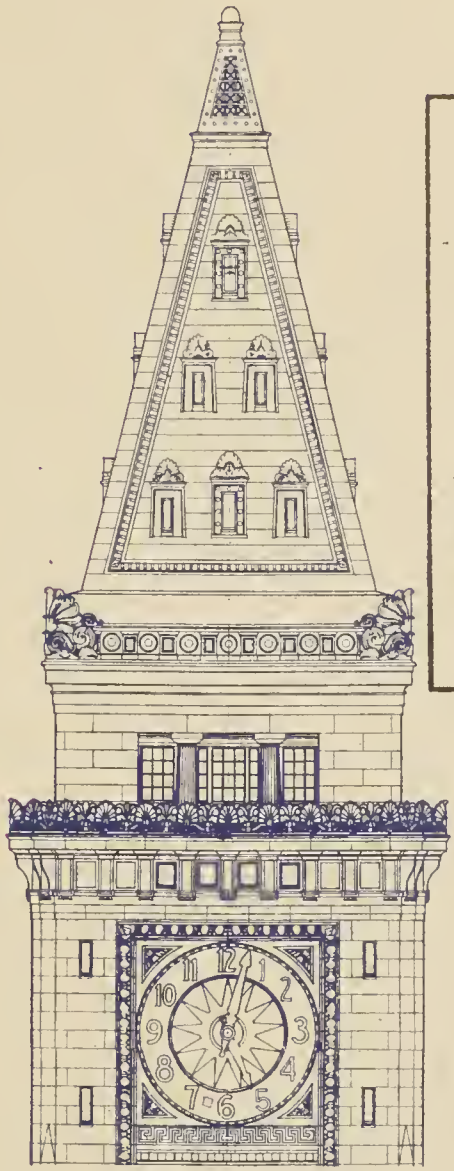

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CUSTOM HOUSE TOWER ASSOCIATES

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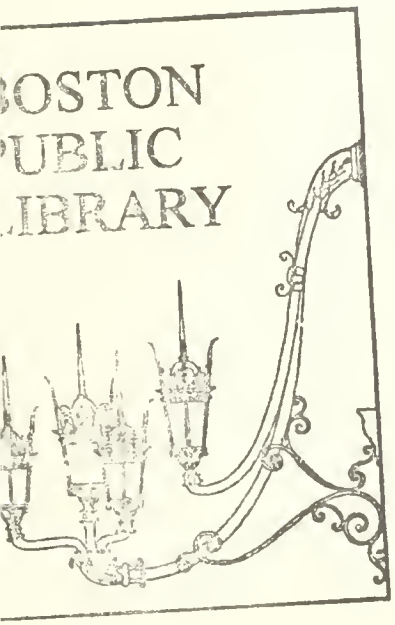

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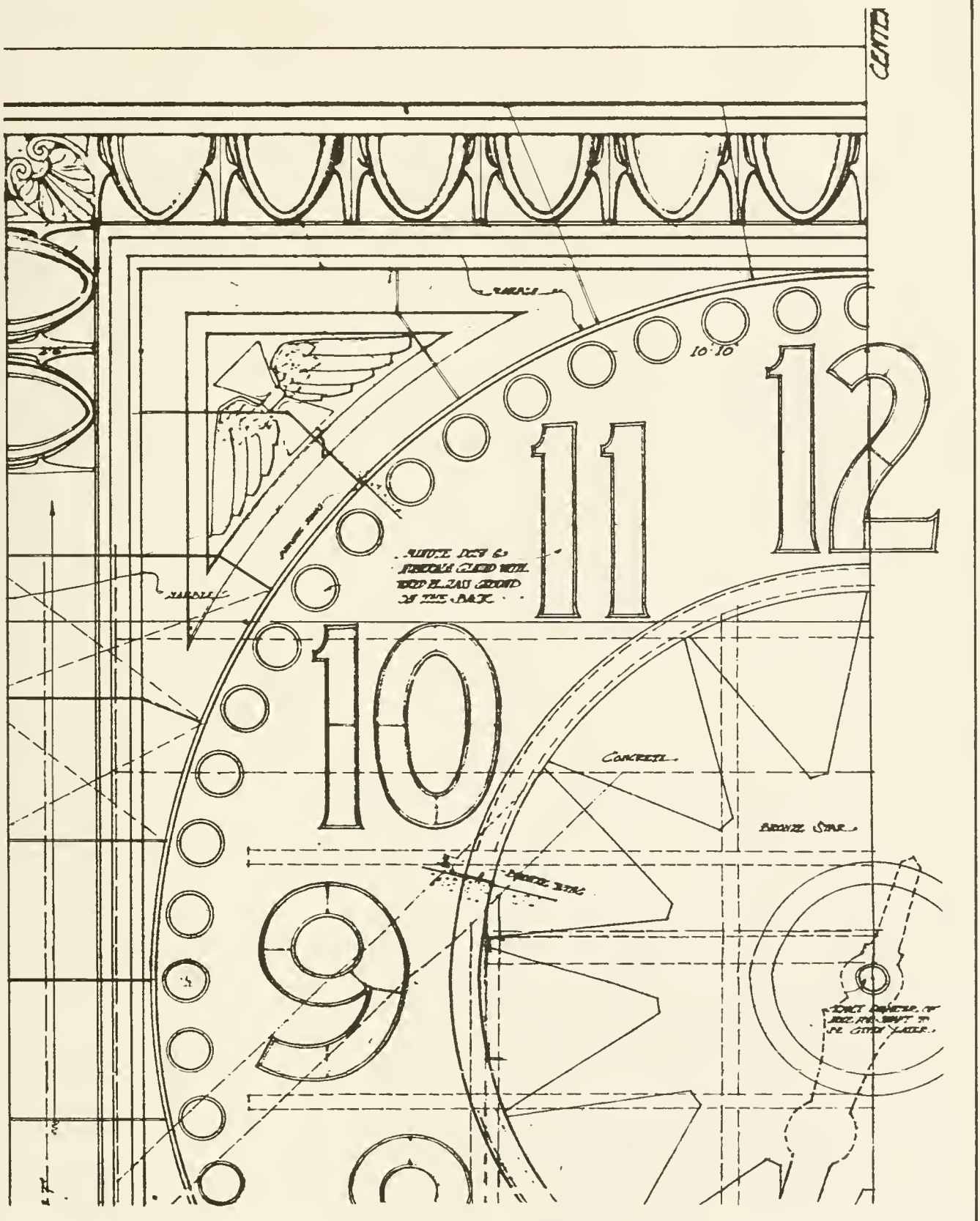
Custom House Tower Associates

Developer	**Trammell Crow Company** in joint venture with **James B. White Partners**
Architects	**Dean Tucker Shaw, Inc.** and **Beyer Blinder Belle**
Museum Programming	**Cia Mooney Design**
Leasing and Brokerage	**Agababian Associates**
Legal Counsel	**Palmer & Dodge** and **DiCara, Selig, Sawyer and Holt**
Mechanical Engineers	**R. G. Vanderweil Engineers**
Structural Engineers	**LeMessurier Consultants**
Traffic Consultants	**Vanasse Hangen Brustlin, Inc.**
Communications Consultant	**Lashley & Company**



PROPOSAL SUMMARY

Proposal Summary

This summary is written to introduce the development team of Custom House Tower Associates, including its developers, architects, and other consultants, and to discuss the redevelopment program proposed for the U.S. Custom House.

Custom House Tower Associates is a joint venture of the Trammell Crow Company and James B. White Partners. Trammell Crow Company, founded in 1948, is the nation's largest private real estate developer. It has assets of more than $13 billion, along with ninety offices in the United States and four abroad. The firm's major projects include the fifty-story LTV Tower in Dallas, Texas, the 1.5 million square foot Atlanta Galleria mixed-use development in Atlanta, Georgia, and the ten-story office building at 745 Atlantic Avenue in Boston, currently under construction in the City's historic Leather District. Trammell Crow Company will also provide building management and construction management expertise.

James B. White Partners is led by James White. Mr. White has practiced law in Boston since 1965. He has been a partner with Palmer & Dodge since 1974 when he joined that firm to help it establish a real estate practice. During his legal career Mr. White has worked on major real estate projects throughout the United States. In Boston he has represented private-sector interests on projects such as Harbor Towers, Lafayette Place, Post Office Square Park/Garage and Pier 4/Fan Pier. He has represented public-sector interests of the City of Boston and the Boston Redevelopment Authority on projects such as Rowes Wharf, Marketplace Center and International Place. As an investor and principal Mr. White has been involved in various real estate transactions in Massachusetts.

Architectural expertise is provided through the collaboration of Beyer Blinder Belle of New York City and Dean Tucker Shaw, Inc. of Boston. Beyer Blinder Belle is the nations's leading preservation and reuse architectural firm. It has received high acclaim for its work on the Ellis Island National Monument, in New York Harbor. In 1989, the Main Building on Ellis Island and its surrounding landscaped grounds will reopen as a national museum of immigration, celebrating the Ellis Island story.

Dean Tucker Shaw, Inc., has an award-winning forty-person architectural practice. The scope of projects undertaken by the firm is broad, including space planning and interior design for major institutional clients, substantial hospital and other medical/technical work. Through its subsidiary, Construction Contract Consultants, Dean Tucker Shaw provides technical consulting and construction specifications for major public projects, including such historic restorations as the Bunker Hill Monument, the Springfield Armory and the Main Reception Building at Ellis Island.

Other members of the development team include Cia Mooney, Ronald Agababian and Averil Lashley who provide Museum, Leasing and Marketing, and Public Relations expertise, respectively.

Cia Mooney has developed and designed exhibitions for science centers, children's museums, and corporations. Ms. Mooney served as project designer on exhibitions for the Aerospace Museum in Los Angeles, California, and the Maryland Science Center on Baltimore's Inner Harbor. Most recently, she completed the exhibits for the Science Discovery Museum in Acton, Massachusetts. She is a corporate member of the New England Museum Association and the Industrial Designers Society of America.

Ronald Agababian, President of Agababian Associates was Vice President and Manager of the Julien J. Studley office in Boston prior to establishing his own firm. He has twelve years of experience in commercial real estate brokerage and real estate consulting, specializing in office space leasing.

Legal counsel to the project will be provided by the firms of DiCara, Selig, Sawyer and Holt, and Palmer & Dodge.

Mechanical and structural engineering services will be supplied by R.G. Vanderweil Engineers and LeMessurier Consultants, respectively, with Vanasse Hangen Brustlin, Inc. serving as Traffic Consultant.

Further information about the development team is provided in later portions of this submission.

Custom House Tower Associates will oversee the creation of a new cultural entity, the Custom House Museum of the City of Boston, to occupy the original 1847 component of the building. To this end, a Museum Advisory Board was established in 1986. It includes representatives of neighborhood historical societies, major corporations, educational institutions and area museums. The list of Board members is included in the submission. Each member has actively participated in the development of our proposal and their guidance has proven invaluable. We are grateful for their enthusiasm, support and expertise.

The purpose of the Museum will be to educate and entertain both residents of and visitors to Boston through thematic programming. Among the anticipated themes are: Boston's land, the immigrants and neighborhoods who shaped its unique character, commerce, education and politics. An active outreach program to area schools is planned. We suggest that this Museum become the "official" Museum and reception center for the City. The twenty-fifth floor (the Observation Level) as well as the twenty-fourth and the

twenty-third (the Clockworks) will be incorporated into the Museum. The Museum proposal is discussed extensively in this submission.

In addition to the Museum, Custom House Tower Associates will restore the tower portion of the Custom House into first-class office, conference and ancillary function space. Further, we have explored with Nathan Miller the proposal of creating a plaza between the Custom House and Mr. Miller's building at 131 State Street. While the creation of a plaza would have to be explored in detail with the Department of Traffic and Parking, and others, we believe it holds exciting possibilities for urban, cultural activities. This plaza, called Custom House Square, would provide a setting for events celebrating the City and its neighborhoods, such as First Night, and Neighborhood Nights. If the plans for Custom House Square are approved, Custom House Tower Associates will sponsor a competition for local Boston artists for creation of a sculpture, entitled "Boston," to be located within the Square.

Schedule

Custom House Tower Associates proposes to carry out the redevelopment of the Custom House on the following schedule:

1988	
Jan	
Feb	. . . Proposals submitted to BRA
Mar	
Apr	
May	. . . Tentative designation of Developer
Jun	. . . Ground lease negotiations
Jul	. . . . . Preliminary design work completed
Aug	. . . . . First Agency review completed
Sep	
Oct	. . . Final designation of Developer; sign lease
Nov	. . . . . Start construction documents
Dec	. . . . . Asbestos removal begins
1989	
Jan	. . . . . Begin interior demolition
Feb	
Mar	. . . . . Begin elevator work and structural work
Apr	. . . . . Begin granite roof restoration
May	. . . . . Sitework begins
Jun	. . . . . Begin museum exhibit fabrication
Jul	
Aug	
Sep	. . . . . Mechanical, electrical & fire protection work
Oct	
Nov	
Dec	. . . . . Start tenant finishes
1990	
Jan	
Feb	
Mar	. . . Certificate of Occupancy
Apr	
May	. . . First tenant occupancy
Jun	
Jul	. . . . . Install first exhibits
Aug	
Sep	. . . . . Museum opens
Oct	
Nov	
Dec	. . . Final tenant occupancy
1991	

Acknowledgements

Custom House Tower Associates wishes to recognize the invaluable contribution of Dr. Roger Nichols, former Director of the Museum of Science. He was a vital participant in developing the conceptual framework for the Custom House Museum of the City of Boston and provided unlimited energy to our Museum Advisory Board.

It is with deep sadness that we acknowledge his passing. His legacy to the discovery and education that museums provide is represented in the spirit of this document.

We also acknowledge with gratitude the cooperation and patience of the following people who helped us understand the history and the character of the Custom House and shed light on how this important structure might be maintained as a vital part of the City of Boston into the next century.

For historic photographs and background material:
Boston Athenaeum Library
Boston Public Library, Print Department
Bostonian Society Library

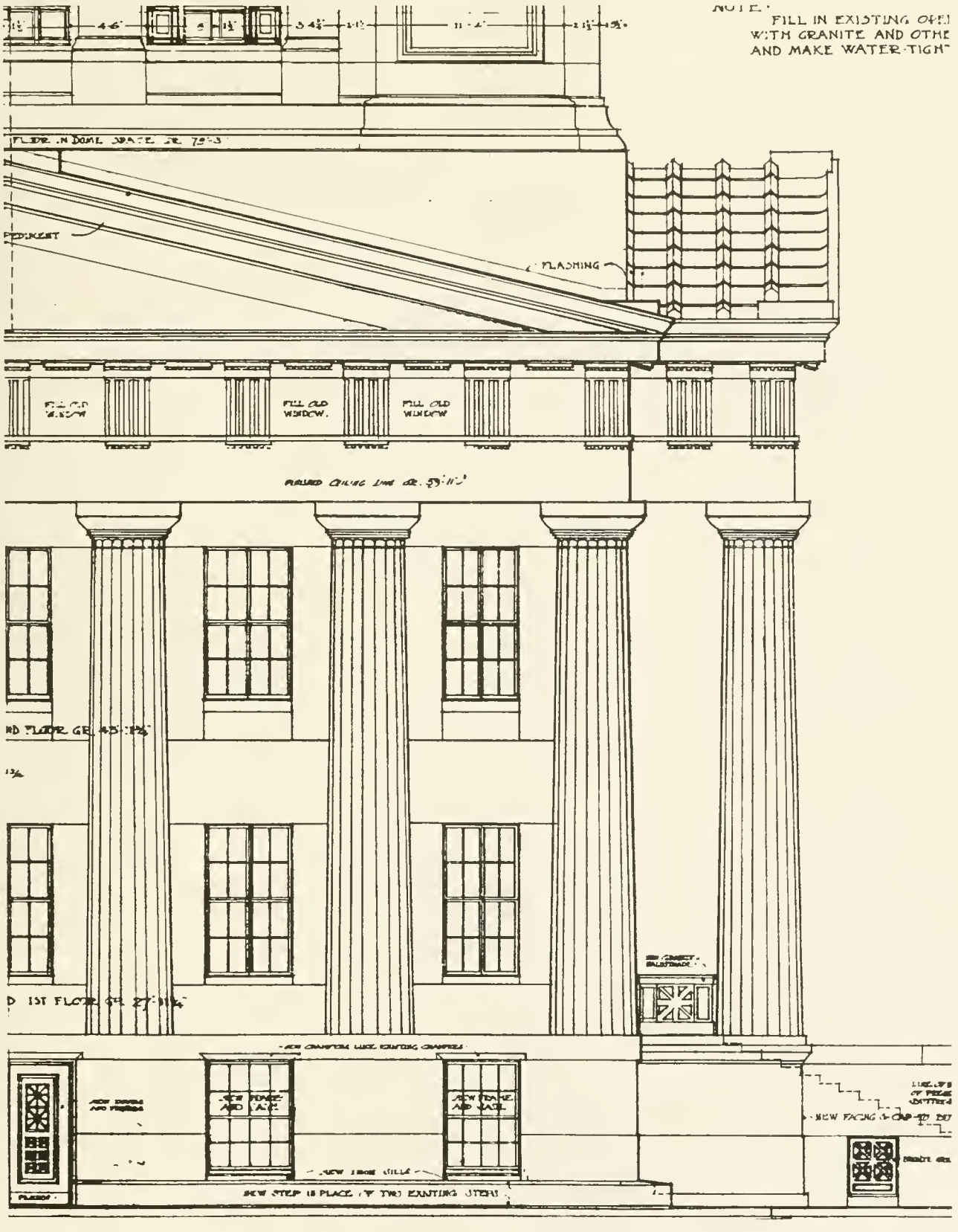
For assistance developing the Museum program:
William Barton
Peabody Museum of Salem, Mass.
Tom Berger
Chief Financial Officer, Museum of Science, Boston, Mass.
Stuart Frank
Director, Kendall Whaling Museum, Sharon, Mass.
Harvey Jones
Curator, Oakland Museum, Oakland, California
Robert MacDonald
Director, Museum of the City of New York

John Radloff
Exhibits Designer, Museum of Science, Boston, Mass.
Roy Shafer
President, Center for Science & Industry, Columbus, Ohio
Richard Wheeler
Director, U.S.S. Constitution Museum, Charlestown, Mass.

For technical consulting:
John Donahue
Boston Edison Company
Richard Fish
Bay State York Co.
Brian Hanlon
Boston Thermal Co.
Gregg Laufersweiler
Schindler Elevator Corporation
John Prosser
J. P. Prosser & Associates, Code Consultants
John Ryan
President, Ryan Elliott & Company
Martin Stecklow
Harlow Restoration
David Tibaldi
Guzovsky Electrical Corporation
James Walsh
Walsh Brothers Construction Co.
Paul Zaferiou
William Lam Associates, Lighting Designers

City officials who contributed advice:
Walter Adams
City of Boston Inspectional Services Department
Ed Burke
Mayor's Office of Neighborhood Services
Tom McNicholas
City of Boston Inspectional Services Department
Ken Morin
City of Boston Inspectional Services Department
Ted Segal
City of Boston Department of Traffic & Parking
William Sommer
City of Boston Inspectional Services Department

Friends of Custom House Tower Associates:
Bertha Glavin
Fred McLennan
Mary Rafferty, *New England Telephone Co.*



PRESERVATION, URBAN DESIGN AND REDEVELOPMENT

History of the Building

Few buildings in Boston stand more central than the Custom House to the City's history as a major port and its historic influence as a seminal architectural center in 19th and early 20th century America. Erected between 1837 and 1847, when Boston was one of the nation's five major ports, this Greek revival building was designed by Ammi Burnham Young, who would later become the U.S. Treasury Department's first Supervising Architect. The original building, exemplary of Boston's "Granite Age" of 1820 to 1860, received a phenomenal tower addition in 1912-15, designed by Peabody and Stearns, the leading architectural firm in Boston - and one of the most prolific and important firms in America -- in the decades surrounding the turn of the century. The Classical Revival tower addition, built by the Norcross Brothers, stood as the first skyscraper in Boston and enabled Young's building to maintain its function as an active custom house and to remain a viable landmark on the harbor up to the present day.

The plan and siting of the Custom House, the second in the city, is inextricably meshed with early 19th century urban planning efforts in "Town Cove", where Long Wharf was erected in 1710. In 1805, the plans of the Broad Street Associates -- led by Uriah Cotting with Charles Bulfinch as planner -- began to alter this area with landfill, creating new wharves and planned street patterns. In the ensuing years India Street was built, branching off from the waterside terminus of State Street and following the new harbor line down to South Battery and the newly built India Wharf. A few years later Broad Street was built, parallel to India Street and inland. Smaller cross streets linked these two major thoroughfares, the principal of which was Custom House Street where Boston's first Custom House of 1810, designed by Uriah Cotting, was

conveniently located at about mid-point between the new India Wharf to the south and Long Wharf to the north (fig. 2).

Maritime activities continued to increase in this area and by 1819, Central Wharf, parallel to and almost as long as Long Wharf, was completed. By 1835, Uriah Cotting's building had become inadequate for the port of Boston which collected one-fifth of the country's custom revenues at that time. When the 23rd Congress authorized a replacement Custom House for Boston, a new site, more centrally located at the terminus of State Street and the head of the sliver of water between Central and Long Wharves, was purchased by the Federal Government for $180,000.

...the most expensive Federal building ever built at that time

A competition for the design of the new Custom House was held and drew many entries from such notable architects as Alexander Parris and Richard Upjohn. The committee chose the design of Ammi Burnham Young (1798-1874), an architect who had designed the then recently completed Vermont State House in Montpelier (1833-36). Construction on the new Custom House commenced in 1837. After ten years and a cost of over one million dollars, the building -- the most expensive federal building ever built at that time -- stood complete.

The design, style, and materials, as well as the construction of the Custom House make it highly significant in the architectural and urban history of Boston and America. The Greek Revival, the latter phase of the Neoclassic aesthetic that engulfed the early 19th century in America, was thought to be the best expression of the high civic ideals of the Federal era. Young's design combined classical motifs from both Greek and Roman sources with the American's penchant for practicality and new technology. The building is rectangular in plan and raised on a high basement. Inspired by ancient Greek sources and repeated here with robust accuracy is the colonnade of colossal engaged Doric columns running the two-story height of building, the archaelogically correct

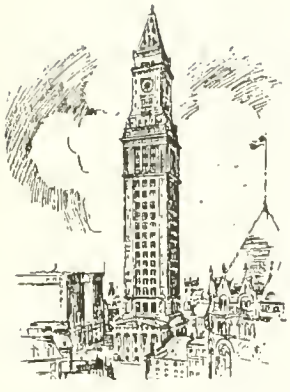
..."severe granite grandeur"

entablature and, on the long east and west elevations, the projecting Greek temple-front porticoes with six colossal columns supporting a triangular pediment. The crossing of the long north-south axis and the short east-west axis is surmounted by a hemispherical dome, reminiscent of ancient Rome, supported by an octagonal drum on the exterior and resting on a ring of twelve colossal Corinthian columns on the interior rotunda. From a more practical -- and anti-classical -- mode of thinking were the insertion of windows into the stylobate in order to allow light into the full-story basement.

In Boston, the Greek Revival was distinguished by a monumental and "severe granite grandeur" characterized by monolithic stone construction. Rather than employing ashlar construction in which blocks of granite are laid up in courses to create an architectural motif -- such as a column or a post-and lintel doorway -- single massive pieces of granite were used. The Custom House, one of the finest examples of Greek Revival architecture in Boston, is exemplary of this mode of construction. The granite pieces for the 22 monolithic columns of the Custom House, weighing in at 42 tons each, were hoisted from the Pine Hill Quarry in Quincy by new machines invented especially for the construction of the building by architect Solomon H. Willard (1788-1862). Said to have been dragged to the site by "no fewer than twelve teams of horses and sixty-five yokes of oxen," they are reputedly "the largest single pieces of granite ever quarried in this country to be fashioned into one-piece columns."

Young's monumental Custom House contained 719,206 cubic feet of space, but within four decades this, too, had become inadequate for Boston's burgeoning customs activities. As early as 1887, plans to expand the building were deemed impractical and various sites were considered for yet another custom house. No action was taken until 1908 when the Merchant's Association and the Chamber of Commerce formed a joint committee to study the problem. The committee's recommendation reiterated the need to

construct an entirely new building, but this idea was soon thwarted by the low budget allocated to the project by the U.S. Treasury Department. The Assistant Secretary of the Treasury suggested that the Commission look into the example of New York City, where in 1907, McKim Mead and White had remodeled and doubled the height of the New York Custom House (originally the Merchant's Exchange by Isaiah Rogers, 1836-42) to be used as the National City Bank's headquarters. One committee member was Robert Swain Peabody (1845-1917), principal designer in the firm of Peabody and Stearns, a civic-minded architect active in city affairs and author of several publications on municipal improvements including A Holiday Study of Cities and Ports of 1908. Peabody, who had long been fascinated with the towers of Europe, influenced the committee's final decision to contruct a tower over the original building by producing the design ultimately selected for the project.



Boston's first skyscraper

Construction on the tower began in 1912 and was completed in 1915. The 495 foot addition literally towered over Boston's low skyline, for the local zoning ordinance at the time restricted the height of buildings to 125 feet. The Custom House, as a federally owned property, was exempt from this restriction and became Boston's first skyscraper.

Although Peabody and Stearns' Classical Revival style differed from Ammi B. Young's archaeologically correct Greek Revival style, the classicism of the tower addition was sympathetic to the original building. A heavy base with pier openings at the bottom of the tower repeats the colonnaded opening of Young's building, making a smooth transition to the twelve stories of rectangular window openings which articulate the main mass of the tower. Above this is a section with pairs of ionic columns and openings, again referring to the columns and openings of the base and the original building. At the next level, where an observation deck is located, the tower narrows and features rich classical ornamentation, a clock face,

reputedly the largest clock in the United States at that time, and crowning the whole, an elegant pyramidal roof.

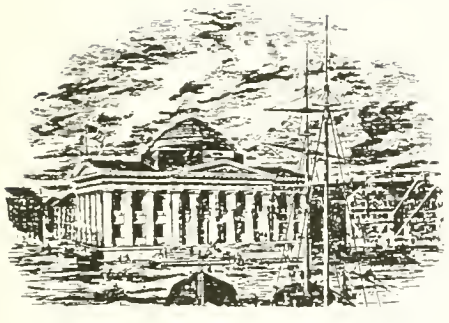
The actual building and construction of the tower addition was as distinguished in its own time as was the granite construction of the original building in its time. This was due to the building expertise of the Norcross Brothers who had achieved their fame by playing a major role in the creation of H.H. Richardson's monumental lithic structures. The construction of the tower necessitated making alterations to the original building. Some of the twelve corinthian columns on the interior rotunda were removed to accommodate new trusses around the dome which distributed the weight of the eight steel columns of the tower. The formidable corinthian columns were later reassembled in Franklin Park as a monumental gateway at the Seaver Street entrance.

...the two partners (Peabody and Stearns) died within a week of one another

The Custom House Tower, completed in 1915, was the last major work of Peabody and Stearns whose practice ended when the two partners died within a week of one another in 1917. As the firm's best known work in Boston and resting on one of Boston's finest early 19th century buildings, the tower stands as a monument to the exciting architectural climate of Boston in the 19th and 20th century. The tower also pays homage to the rich maritime history of Boston by its position on the harbor and by respectfully calling attention to the early 19th century position of Ammi Burnham Young's original building -- featured in a spot of land at the foot of State Street and at the head of Boston's two largest wharves, beckoning to both city and sea.

Approach to Building Preservation

The Custom House is subject to design review by a number of concerned agencies, all of which require that all restoration and rehabilitation work be consistent with the Secretary of the Interior's "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings." The Boston Landmarks Commission has, in addition, developed a set of guidelines and requirements specifically covering the Custom House exterior and certain portions of its interior. All of the Boston Landmarks Commission's preservation concerns and review procedures and those set forth in the Request for Proposals will be stringently adhered to by the development team throughout the planning and construction process. It is recognized that the Custom House is of paramount architectural and historical significance to Boston, and that the history of the site and all significant building fabric shall be treated with utmost sensitivity and discretion.



Treatment of the building exterior will follow a strict conservation approach using appropriate repair and cleaning measures such as plain water wash cleaning of masonry, using mild cleaners only where required, repair of existing sash where possible and replication "in kind" when necessary. Tuckpointing will be with structurally and visibly compatible mortars. New components such as replacements for the industrial sash at the 1847 building and any new lighting will follow historic precedent, where possible replicating original material. Contemporary needs such as access for the disabled, secondary entrance doors, and modern security requirements will be new design elements handled with special consideration as discrete and reversible modifications to the building.

Architectural Significance Survey

Available existing drawings of the building will be used in depicting the plan layout of the structure, changes to the interior of the building over time and the existing conditions. In addition we will provide an Architectural Significance Survey which will summarize the relative architectural character of each space within the building. Accurate field survey work at the Custom House is prerequisite to nearly all advanced programming and design work. This work will involve documentation and analysis of pertinent aspects of existing building fabric. The intent of this work is to provide reliable base materials for the subsequent development of contract documents and to provide information on building finishes and their conditions both for design decision-making and cost estimating purposes. Specifically the survey would include:

Historic Development Review: This process includes:

...accurate field survey work at the Custom House is prerequisite to nearly all advanced programming and design

Analysis of the morphological growth of the building as a structure by reviewing archival documents, building histories, and field observation.

Graphic depiction of the historic development of the building using plan overlays, axonometric drawings and/or other means.

Analysis of the historic use of each space for use by the design and interpretive teams.

Existing Condition Survey: Careful field work, including:

Room by room inventory of the existing condition of each space within the building. The survey of each space is to be both qualitative and quantitative. The primary purpose of this will be to note all visible architectural finishes and their condition.

Photography of each space to create a permanent record.

Photography of each space to create a permanent record.

Record the results of the existing condition survey on architectural plans.

Architectural Significance Grading: Based on observations made in the existing conditions survey, we will carefully classify the relative architectural significance of each important public space within the building using the following definitions:

Grade One: Spaces with the most architectural character as noted in spatial volumes, details and finishes.

Grade Two: Spaces with some architectural character.

Grade Three: Spaces with relatively minor architectural character.

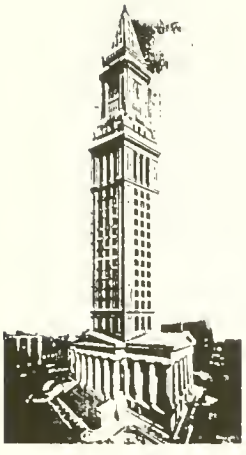
Grade Four: Spaces with negligible architectural character.

The rationale for this system will be fully explained and conclusions plotted on architectural plans as a guide for both planners and preservation agency decision makers.

Spaces and finishes that could be categorized as Grades One and Two will be treated with a very high level of attention to conserving historic fabric and character. Grade Three spaces might be suitable for respectful rehabilitation, but with somewhat less attention to preserving historic architectural character. Spaces categorized as Grade Four might be identified as Tenant areas as well as those for support functions.

Treatment of Historic Areas

Exterior



Consistent with BRA Guidelines, no exterior or structural changes shall be made other than those in accordance with the Secretary of the Interior's "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings." The overall conversion of the lower three levels to a museum will recognize that the public spaces contained within the 1847 shell and the building in its entirety shall in itself become a preserved artifact and backdrop. Therefore, public as well as tenant improvements will restore, reflect and respect as close as possible the original building and the Peabody and Stearns design of 1915.

To achieve this goal the following will be carried out:

- Exterior surfaces will be surveyed for condition and scheduled for appropriate repairs where necessary;
- Redundant conduit, wall penetrations, surface mounted brackets and equipment will be removed and replacement materials/repair will endeavor to match the original;
- Surface stains and paints will be examined and correct non-abrasive methods will be employed to remove them;
- Anti-pigeon devices where required will be unobstrusively located and non-reflective;
- Roof conditions will be examined for failures in flashings, materials and watershedding. Gutters and leaders considered inadequate will be improved and repaired using contemporary weatherproofing materials incorporated into original construction methods;

- All broken, defective, missing or non-matching previous repair materials will be recorded and new replacement/repairs will be undertaken to match the original;

- Windows will be individually assessed for their condition, material and appearance. Non-conforming repair and replacement windows after 1915 will be removed and replaced with appropriate through-muntin divided lite sash;

- Glass block paving below the Ground Floor windows will be replaced or restored according to their condition;

- New replacement grilles at the Ground Floor level will be installed to reflect the design of grille work at the base of the Tower;

- Existing grilles and spandrel copper work will be examined for condition and appearance. Cleaning and repair will be carried out as deemed necessary to preserve the integrity of the material;

- Modification of existing safety grilles at the Observation Level to permit attachment and free use of viewing telescopes.

...it is important to re-establish ceremonial entrances

Due to the intended mixed-use occupancy proposed for this building it is important to re-establish ceremonial entrances for the Museum visitor and separate entry for those tenants occupying the office space above. Main doorways within the portico at McKinley Square will be repaired and restored. Elsewhere, doorways within the Museum and those serving the tenant spaces will be upgraded to integrate contemporary handicapped safety and security requirements. Existing archival material will provide the basis for new interpretive design where doors are missing or have been poorly altered over time. Completely new entrances for the tenant entrance at State Street and entrance to the Museum Shop on Central Street will replace existing doors. To define clearly these public and tenant spaces and to set them apart, these entrances will be partially covered by sympathetically designed bronze and glass canopies. These will serve to mark the appropriate entrances with subtle, clear signage that will be independent from the facade and protect the entering public during inclement weather. Safety lighting as will as architectural feature lighting may also be carefully concealed within this added feature.

Signage will be kept to a minimum on State and India Streets. On McKinley Square and Central Street, demountable banners will be positioned in such a manner as not to conceal architectural elements and ornamentation. Exterior lighting will be divided into two categories: lighting which enhances and highlights the building; and lighting which provides pedestrian safety and security. In both cases, fixtures will be concealed wherever possible or positioned so as not to interfere with the view of the building. Lamp posts and/or wall-mounted lamp brackets will be placed at each entrance to provide adequate illumination to denote the various entrances and changes in level.

Interior Landmark Spaces

It is expected that the sensitive restoration of the interior of the first four stories of the Custom House to become a Museum of the City of Boston will carry beyond the monumental interior rotunda specifically designated as a landmark. For instance, the two-story Commissioner's Office and several other spaces located adjacent to the rotunda will be rehabilitated with regard to surviving historic architectural detailing such as moldings, wainscots, ornamental ceilings, marble floors, railings and window treatment.

The new use of the Ground Floor and Floors One and Two as Museum space will require modifications to create spaces for reception areas, a coat room, toilet rooms and concessions. These accommodations and others, such as improved air conditioning and security will be provided by sensible preservation planning which is discrete. For instance, reception at the Tenant Lobby (Ground Floor) will be an appropriately designed free-standing reception/security desk. Few signs will be surface-mounted and every effort will be made to make improved lighting and air conditioning unobtrusive.

Existing mechanical, electrical and plumbing systems will be upgraded or replaced as necessary. A new HVAC system will be selected with careful consideration of its impact on significant historic architectural fabric and the special needs of the new use of the first three floors as museum space.

The modern elevator doors and cabs will be restyled with designs based on the originals, yet conforming to to present codes. An example of the type of problem this presents is the modern limitation placed on the surface relief in sliding elevator doors (to keep childrens fingers from being injured) which conflicts with early twentieth-century grillage door designs. Safe doors which still retain an appropriate flavor of history will be employed.

Custom House Tower Associates will undertake the redevelopment of the structure in close coordination with local and national preservation concerns to assure that the project will be consistent with the established guidelines.

Urban Design Issues

Early plans of the area show that the original site allocated for the replacement Custom House built by Ammi Young was a free standing building overlooking Long Wharf and the Harbor. Young's Custom House was the focal point and terminus of the early waterfront roads which formed a large open space around the structure. The design, symmetrical in plan and massing, featured a large hemispherically domed rotunda reached by monumental steps on the eastern and western sides.

As trade increased and real estate development and expansion continued along the waterfront, wharfs were filled in, pushing the shoreline forward. The irregular docks and inlets disappeared. Subsequently, new buildings were erected between the Custom House site and the water cutting off the majestic view afforded from the elevated grand entrance.

Before Peabody and Stearns were commissioned to design a tower, the steps to the eastern facade were removed. Peabody and Stearns' plans show that the pair of metal steps which lead from the portico to the north and south were also to be removed. The 1847 base had turned its back on the waterfront and the main entrance now faced toward the City.

Recent developments and improvements in the area, primarily Faneuil Hall, the Markets, waterfront hotels and the Aquarium have endeavored to reconstruct original street patterns and open up views to the Harbor. The suppression of the Central Artery which is planned for the 1990's will greatly improve pedestrian and vehicular access to the water. Visual contact will also no longer be impaired.

Goals

Our goals in preparing the Site Plan are:

- To create a sense of place.
- To provide an imposing setting for the building.

- To promote pedestrian use of the areas adjacent to the building and to establish clear and pleasant paths across the site for foot traffic.

- To recall the "Age of Granite" with the use of historic site materials.

- To remove, as much as practical, all cars from the site and completely form a buffer zone at the base of the building and to regain control of vehicular activity.

- To control vehicular movement around the building.

- To enhance east-west pedestrian movement from Broad Street to the water at both edges of the site.

- To formally landscape the public spaces.

Vehicular Circulation

We feel it is important to acknowledge the existing street pattern and traffic flow around the building. In our proposed site plan, State Street continues as a two-lane artery westbound with restricted parallel parking set within a lay-by with increased sidewalk width and larger corners for pedestrians.

Central, India and Milk Streets will continue to carry eastbound traffic to the Central Artery. Central Street between the Artery and India Street will continue westbound and provide secondary access, service and delivery access to the Custom House and adjacent buildings.

"...results indicate that the traffic volumes diverted by the closure of India Street and McKinley Square between State and Central Streets will have no adverse effects on traffic operations in the vicinity of the site:
--from VHB Transportation Access Plan

McKinley Square will be paved to allow for drop-off and pick-up access only and will have the option and flexibility to be closed off for special events, summer hours and weekends. Custom House Square will be developed as a secondary service street for delivery and handicapped access to the building. On-street restricted parallel parking will be provided. Although designed as a 'street', cars and service vehicles will be limited to those requiring immediate and direct access to the neighboring buildings. In this way, a square can be recreated during off-peak hours and weekends.

Traffic analysis of the surrounding area indicates that Central Street and McKinley Square are now only serving as short cut routes to State and India Streets and are not used as major thoroughfares. For this reason, we feel that these streets can be partially closed without disrupting existing major traffic flow. A full traffic analysis was performed for Custom House Tower Associates and the results are presented in the Appendix to this proposal.

Pedestrian Circulation

It is essential that any sitework and external improvements address adjacent public space and relieve the congestion surrounding the building. The Custom House has lost the definition of the granite plinth which once provided a base. The surrounding pavement is narrow and restricts pedestrian movement around the base of the building. Parking is tucked tightly against the perimeter and conceals secondary entrances.

A new buffer zone is proposed that will reclaim public space to the eastern and western sides of the building. This will re-establish the monumental steps to the west as the ceremonial and public entrance to the museum and observation deck and reactivate the primary entrance into the building. The eastern side will be redeveloped as a service entrance within a landscaped plaza.

Circulation within the structure is rectilinear. Fair weather museum access will be from the west up the steps to the *piano nobile* with its great doors. Business users will enter via the State Street doors at grade. Museum visitors will exit at grade on the south onto Central Street. The service entrance to the Custom House will remain the east doors off of McKinley Square.

Pedestrian circulation outside will be enhanced by the creation of two plazas: McKinley Square and Custom House Square, both of which will be closed off for special events or shared with cars and trucks on a restricted-access basis.

A strong visual link will be made between the Jenny Building park and the arcade at Marketplace Center to serve the heavy foot traffic across the site moving to and from Quincy Market. The open paved and landscaped areas will create an important new meeting place with views toward the waterfront.

Paving, Planting and Site Improvements

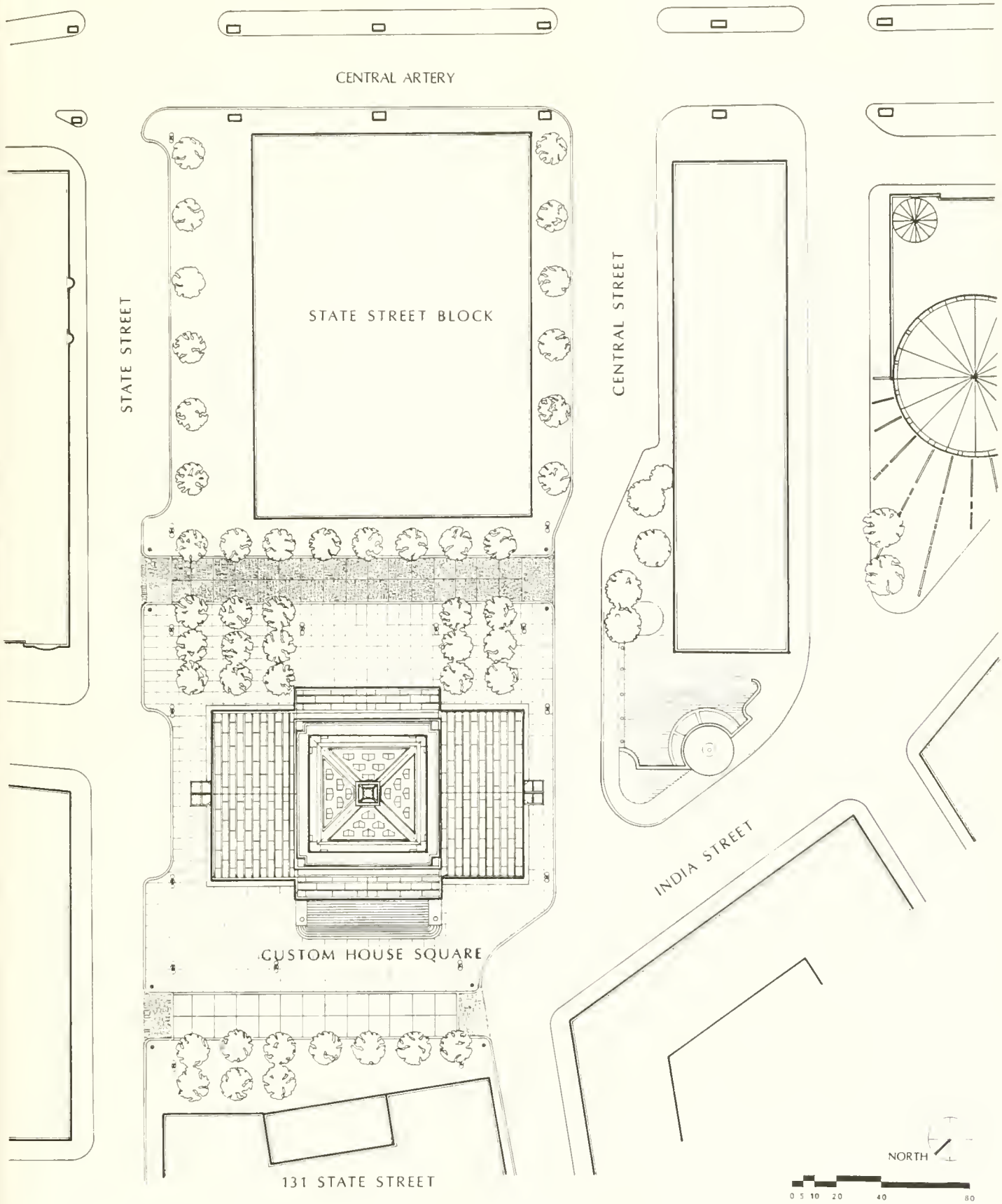
Paving: Compatible materials will be used for site improvements to enhance and emphasize the monumentality of the Custom House. It is intended that the base of the Custom House be enlarged to form specially paved plazas which will define the boundaries of the open space surrounding the building. Granite pavers will be used for all pedestrian surfaces to match in color and veining that of the existing plinth.

Pedestrian pavements surrounding adjacent buildings will be of concrete scored to match the granite paving around the Custom House, except that at Custom House Square where all pavers will be granite. Curbs and curb cuts will be of grey granite. Inlaid marbles and metals may be used sparingly to denote level change and enrich the paving at both of the plazas. Granite cobblestones will be used to mark the vehicular access points at Custom House Square and will form the new road surface at McKinley Square. Large stone bollards will be used to mark entrance points.

Site Lighting: New lamps and lamp posts will be designed as period reconstructions of lighting which would have been used at the turn of the century. This will establish a visible boundary to the area at night as well as afford safety and enhancement to certain aspects of the building and urban space. Floodlighting for the base of the building will be unobtrusive and highlight key architectural features. Concealed lighting will also be added to the underside of the western portico to denote the entry and illuminate Museum signage.

Street Furniture: Benches and outdoor seating will be designed to be vandal resistant and weatherproof. Their style will reflect the classical proportions and permanence of the building. It is intended that their grouping, although fixed, will form different patterns to reduce the scale of the open space while providing pleasant landscaped rest areas.

Landscaping: To balance the hardness and monumentality of the open space, formal rows of trees will be planted around the building. These trees will serve to provide a visual boundary for the open plazas. They will be set back from the base of the building so the impact of the exact rigid adherence to the symmetry of the architecture can be appreciated. These trees will be planted equidistant from each other and set into the paving with large tree grates protecting their roots. Hardy and suitable tree types may be selected, such as London Plane trees and non-fruiting pear.



U.S. CUSTOM HOUSE

Boston, Massachusetts

CUSTOM HOUSE TOWER ASSOCIATES

Developer
Trammell Crow Company and James B. White Partners

Architects
Dean Tucker Shaw, Inc. with Beyer Blinder Belle

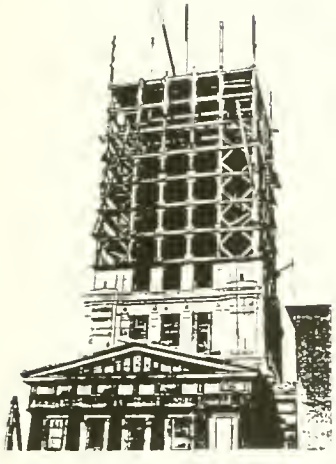
SITE PLAN

2

Building System Improvements

Elevators

The building currently has five elevators servicing the first twenty-five (25) floors. Elevators #1, 2 and 3 are located in adjacent shafts at the west side of the building in the northwest corner. Elevator #4 is also located on the west side in the southwestern quadrant of the Tower. The last elevator, #5, is the small equipment serving floors 18 through 25 and is located on the south side in the southwestern portion of the upper Tower.



Custom House Tower Associates feels that the existing elevator conditions are severely inadequate. Even if the Westinghouse machine room equipment on Elevators #1, 2, 3 and 4 could be upgraded in an attempt to meet existing elevator codes, the balance of the systems would remain inadequate. For example, the elevator door operators, safety devices, the operating speeds, the counterweight rails and safeties, the strength and plumbness of 70 year-old rails, control systems and the existing condition of the traveling cabs is not acceptable for Custom House Tower Associates' development program. Moreover, elevator #5 which serves the upper tower floors is inaccessible for the handicapped and cannot service the load requirements for the Observation Level traffic. As a result, we propose to remove all existing equipment, cars, rails, etc., and to install modern systems.

It is important to note that even the installation of completely new elevator equipment will not assure that the vertical transportation systems will meet the building code requirements for new elevator installations. As an example, there is currently no elevator pit for Elevator #5 on the 18th Floor, and there appears to be no adequate manner in which to remedy this situation. As a result, Custom House Tower Associates will have to seek a variance for this condition among others, and describe any applicable compliance alternatives. We firmly believe that these compliance alternatives and new state-of-the-art elevator equipment will assure the highest degree of public saftey.

With these thoughts in mind, Custom House Tower Associates offers the following program for reconstructing the vertical transportation system within the Custom House.

Elevator No. 1: The load analysis performed for the Tower using proposed building population figures indicates that the Tower offices will have very acceptable levels of service through the use of three high speed elevators. As a result, Elevator #1 was removed from the vertical transportation program for the Tower offices. In fact, the floor area which Elevator #1 occupies on each upper floor is proposed to be filled in and the new area created will accomodate an additional restroom on each floor.

Elevator #1 will, however, be used to service the Custom House Museum of the City of Boston. As indicated in the Proposed Elevator Schedule, Elevator #1 will service the Basement through the lower Dome space, inclusively. This elevator will be a hydraulic, 6 stop, 3,000 pound capacity unit having a 125 foot per minute travel speed. The total distance will be approximately 75 feet from elevation +4.9 to elevation +79.4. The elevator machine room will be located in the basement level.

Elevator #1 will have a cab size of 64" x 52" with a 9'-0" ceiling height. The finishes in the traveling cab will be durable as this elevator will be used to transport Museum exhibit components as well as passengers.

Elevators No.s 2 and 3: These elevators will be totally new high speed, hi-rise, gearless traction elevators. As indicated in the Proposed Elevator Schedule, these two systems will service the Tower offices exclusively as they bypass the Museum floors. They will have richly appointed traveling cars, one side of which will look out the hoistway windows of the west side of the Tower.

The control systems shall be microprocessor controlled which will give building management the

flexibility to tailor the elevatoring to the building's usage patterns.

The interior cab of the elevators will be approximately 64" x 52" and have a ceiling height of 9'-0". Due to the constraints of the existing shaft size, the structural support for the traveling car will be a custom cornerpost configuration. These cars will have a 3,500 pound capacity and travel at approximately 700 feet per minute. The elevator machine room will be located on the 19th floor. These elevators will have a vertical rise of 287'-4", extending from the ground floor at elevation +4-11" to the eighteenth floor at elevation +292-4".

Elevator No. 4: Elevator #4 will be programmed to setrve multiple functions. It will typically be utilized as the third hi-rise elevator serving the Tower offices. However, during the public access periods for the Observation Level, it will be the car which serves as the primary route to the Observation Level in conjunction with Elevator #5. Finally, this car will serve as the freight elevator during off-hours for freight and furniture moving to and from the office and Museum floors.

Elevator #4 has a larger existing hoistway dimension than the other two hi-rise elevators. As a result, its interior cab dimensions will be approximately 74" x 54". In order to be utilized as a freight elevator, this equipment will have a capacity of 4,000 pounds. It will, however, travel at the same high speed of 700 FPM. The vertical rise of this elevator will be approximately 290 feet. The cab finishes will be high quality, but will be protected as needed during use in moving freight.

The control system for Elevator #4 will be a microprocessor based system similar to Elevators 2 and 3. As required, it will be called out of the service group in order to respond to its varied service requirements.

Elevator #4 will have a vertical rise which is approximately 30 inches higher than that of Elevators #2 and #3. The additional travel distance is located on the 18th floor in order to provide an access route from Elevator #4 to Elevator #5 with no grade change. This will assure a simpler transition for any physically handicapped passengers to reach the Observation Level.

Elevator No. 5: The existing Elevator #5 equipment and hoistway size is seriously deficient in its capacity and accessibility. The size is actually 68" x 42" deep, which is a tight fit for three standing adults and totally inaccessible for a wheelchair.

In order to resolve this problem, the hoistway will have to be expanded in depth approximately 15 inches. Due to the upper structural setbacks and the location of the hoistway, this expansion will be accomodated in a northerly direction. These changes will necessitate reframing the entire hoistway area and reconfiguring the emergency exit stairs on several of the upper floors.

When these remedial measures are accomplished, the new elevator equipment will be capable of servicing the Observation Level in an acceptable fashion. The new equipment will be a mid-rise, geared, 1,700 pound capacity traction elevator which travels at a speed of 200 FPM. The interior cab dimensions will be approximately 68" wide and 56" deep. The new door will be center opening.

Elevator Schedule

Floor	Elev	Elevator Shafts 1	2	3	4	5	Use
Basement	4'-11"	X	MR				Mech.
Ground	16'-5""	X	X	X	X		Entry
1st	27'-11"	X			X		Museum
2nd	43'-11"	X			X		Museum
3rd	58'-7"	X			X		Storage
Dome	79'-3"						
4th	108'-10"		X	X	X		Offices
5th	123'-4"		X	X	X		Offices
6th	135'-10"		X	X	X		Offices
7th	148'-4"		X	X	X		Offices
8th	160'-10"		X	X	X		Offices
9th	173'-4"		X	X	X		Offices
10th	185'-10"		X	X	X		Offices
11th	198'-4"		X	X	X		Offices
12th	210'-10"		X	X	X		Offices
13th	223'-4"		X	X	X		Offices
14th	235'-10"		X	X	X		Offices
15th	248'-4"		X	X	X		Offices
16th	267'-4"		X	X	X		Offices
17th	279'-10"		X	X	X		Offices
18th	292'-4"		X	X	X	X	Offices
19th	314'-0"		MR	MR	MR	X	Mech.
20th	328'-0"					X	Offices
21th	348'-0"					X	Storage
22nd	359'-4"					X	Offices
23rd	376'-1"					X	Clock
24th	394'-6"					X	Conf.
25th	412'-6"					X	Observ.
26th	430'-2"					MR	Mech.
27th	446'-11"						Unused
28th	461'-1"						Unused
29th	475'-1"						Unused
30th	488'-4"						Unused

Mechanical Systems

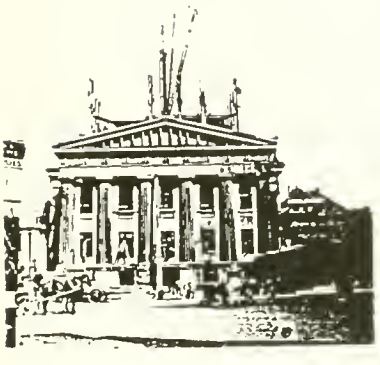
The renovation of the Custom House into museum and office space will include complete and modern plumbing, fire protection, heating, ventilating and air conditioning (HVAC) and electrical systems. Although the re-use of some components such as piping, fire protection stand pipes, or electrical bus duct may be incorporated into the new systems, it will be done only after review and determination that their re-use will not impair the life expectancy, performance or efficiency of those modernized systems.

Plumbing

Background: During the demolition process, the existing plumbing systems will be removed to the vertical piping. From initial examinations, the existing soils and vent stacks are in excellent condition and will be retained wherever possible. The horizontal waste piping will be replaced in the basement level.

The existing domestic water systems will be retained wherever practical. Booster pumps will be replaced and the storage tank and piping systems located in the 19th and 26th floor mechanical rooms will be refurbished where required.

The roof drainage systems in the building will be refurbished wherever practical. The drain baskets need to be recaulked on the observation deck but appear to be in excellent condition. The major storm drainage work will be on the roof of the Museum and in the Custom House Square site work contract.



Design Criteria: All plumbing shall be installed in accordance with the Massachusetts State Plumbing Code, the Department of Environmental Quality Engineering, and local requirements.

Sanitary Waste and Vent System: Drainage, waste and ventilation piping shall be gravity systems, extending from the vent terminals at the roof, serving all plumbing fixtures and exiting through the foundation wall at the existing locations.

Storm System: The roof drainage for the building will be collected by a series of interior rain water leaders and extend to the building storm sewer at the foundation wall at the existing locations.

Fire Protection

Background: An 8 inch Fire Protection Service supplies the building from a connection to the City street main. The 8 inch service feeds the building fire pump which supplies standpipe and sprinkler risers.

The building has 2 1/2 inch Fire Department valves supplied by the standpipe system and an automatic sprinkler system throughout.

Design Criteria: The fire protection systems shall be installed in accordance with all local and State codes and ordinances and in compliance with NFPA 13, 14 and 20.

An 8 inch double check valve assembly shall be added to the 8 inch fire protection service entrance to the building.

The existing fire pump shall be reviewed and a determination made as to its proper sizing for the new systems.

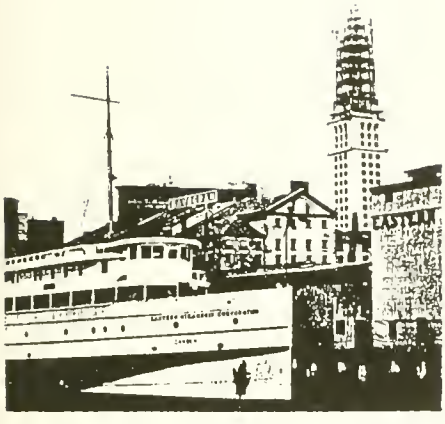
The existing standpipe shall be reviewed and if necessary replaced with a new 6 inch combination riser feeding both the 2 1/2 inch Fire Department valves and sprinkler system. An additional combination standpipe riser shall be installed in the second stair to comply with the Massachusetts State Building Code, feeding both the 2 1/2 inch Fire Department valves and the sprinkler system.

The new fire protection system shall be provided with valves, drains, control valves, test headers, Fire Department connections and all appurtenances to make for a complete and operable system.

Shut-off valves shall be provided at the base of each riser. Each floor shall be provided with water flow

alarms, supervised isolation valves, and inspectors test stations for zone control. 2 1/2 inch Fire Department valves shall be provided with 2 1/2 inch x 1 1/2 inch reducing couplings at each floor level.

The sprinkler system for the building shall be replaced by a new system fed from the two new combination standpipe/sprinkler risers. Each floor shall be supplied by a loop system with sprinklers provided at one sprinkler head per 180 square feet, for the office areas.



The layout of sprinkler heads and sizing of piping shall be based on light hazard spacing for office areas, and ordinary hazard spacing for the Museum area. Hydraulic densities shall be set by the insurance underwriter.

Sprinkler heads shall be fully concealed with white cover plates for areas with finished ceilings and upright mounted rough finish for unfinished areas such as mechanical rooms. Sprinklers shall have proper temperature ratings for the area installed. Sprinklers shall be provided 6'0" on center at all glass walls.

The new fire protection system shall be provided with valves, drains, control valves, test headers, Fire Department connections and all appurtenances to assure the installation of a complete and operable system.

HVAC

Background: There currently exists in the Custom House a variety of mechanical spaces that will in general be reused to house the components of a modern system. The mechanical room and abandoned boiler room in the basement, tall mechanical space at the dome level, the 19th floor of the Tower and floors above the 26th will be used to house equipment.

Particular care will be made in the rejection of heat from the structure. Unlike modern high rise buildings that have flat roofs or specially designed spaces to accept cooling towers, the Custom House does not have a logical space for heat rejection equipment. The

cooling tower by its design produces a "cloud" of water vapor that may be objectionable. Although several possibilities exist, the solution required will be unique and custom designed to meet the specific requirements of the building.

Design Criteria: The HVAC system will be designed to accomplish the following objectives:

1. Heat and cool the Museum areas while maintaining the higher ventilation rates required of a place of assembly and public area.

2. Heat and cool the office areas of the Tower with individual temperature control of each exposure and interior space. Each exposure will be further segmented into one zone per office.

3. Provide for emergency smoke exhaust of the Tower in accordance with modern high rise standards.

4. Provide for stairwell pressurization in accordance with modern high rise and life safety standards.

5. Complete the installation without changing the exterior appearance or historic, lower level interior appearance of the building.

System Selection: The development team has identified several systems and methods to accomplish the design objectives. The final selection of these systems will be made after a thorough study of the building, review of the advantages and a detailed review of the end users' needs.

Museum Areas: This area, due to its higher occupancy, will be heated and cooled with the use of air handling equipment with ducted air distribution and supplemented by fan coils or heat pumps. Outside air will be brought into the building through existing openings intended for this purpose. An air side

economizer will be incorporated into this system to eliminate the need for mechanical cooling at low outside air temperatures.

The smoke exhaust system will be located at the dome level mechanical space and will utilize existing grilles as much as possible. Should heat rejection equipment be located at this level, the fans for the heat rejection will likely be used for smoke removal as well as conserving valuable mechanical space.

Tower Office Space: Space above the dome level will be served by a perimeter two pipe fan coil system or a water source heat pump system that will utilize console type units. These units will be located under windows where steam radiators currently exist. The approximately 2000 square foot core area on each floor will be served by one or two ceiling mounted units with ducted air distribution system.

An air handling unit located in one of the upper level mechanical spaces will provide conditioned make-up air to the core units. The make-up air in each floor will be in excess of that required by either the toilet room exhaust or Code. With older windows and the large perimeter-to-floor area ratio, pressurization of this type is an effective way of controlling infiltration. The supply duct riser will double as a smoke exhaust duct and will be integrated into the upper level smoke control system used by the Fire Department during such an emergency.

Each of the two stairs will be pressurized at the dome level and relieved at the top level of the stairwell in accordance with modern practive to provide a safe means of egress.

Heating Source: Whether the water source heat pump is used or the fan coil system, district steam from Boston Thermal will be the source of heat. This is the current source and through a steam-to-water heat exchanger, will be integrated into the closed water piping loop.

Cooling Source: Mechanical refrigeration will consist of either a small chiller for the Museum levels and heat pumps for upper Tower levels or a large chiller for the entire building. A major consideration of the cooling system will be the manner in which the heat is rejected. Several options exist:

1. Locate heat rejection equipment in a nearby building and pipe either chilled water or condensed water underground to the Custom House.

2. Use chillers located in the basement with air cooled condensers located in the base of the Tower. Air cooled condensers would not produce the potentially objectionable "cloud" of moist air.

3. Use closed circuit evaporative coolers or condensers in the base of the tower that would utilize evaporative cooling only when required. Non-evaporative cooling could be used a large percentage of the time.

4. Use of ice storage as a means of reducing installed refrigeration capacity and as a means of deferring, until the evening hours, the rejection of heat. This system will be investigated and submitted to Boston Edison for consideration under their Design One program and funding commitment contained in the Request for Proposal.

Electrical Systems

Background: Retrofitting a modern electrical system and communications raceways into the Custom House Tower requires space to be provided in excess of what was provided for electrical systems when the building was originally constructed. New electrical systems will include electric service, panelboards, emergency generator and distribution, fire alarm systems and communication raceways. To minimize space requirements, consideration will be given to centralizing electric distribution panelboards to service lighting and power on several floors above and below the central distribution. This approach may be feasible for all electrical systems.

The location of the emergency generator, with its required ventilation, oil supply piping and exhaust piping must also be carefully coordinated to reduce impact on both the building's exterior and riser space.

Design Criteria

Power: The following load levels will be employed when designing the electrical power requirements:

Museum	6watts/SF for specialized lighting 1watts/SF for exhibit power
Office	2-1/2 watts/SF for lighting 1-1/2watts/SF for convenience power

Electrical capacity will be installed to meet the configuration and requirements of the mechanical systems. Emergency power shall be provided as required by Code.

Lighting: A combination of incandescent and fluorescent lighting will be employed in the Museum to enhance exhibits and for general illumination. Office lighting shall be fluorescent fixtures providing 50fc and 20fc will be provided in stairwells and toilets.

System Description

Electric Service and Distribution: Due to the building size and projected maximum demand for electrical power, Boston Edison has indicated the installation of a network vault within the sidewalk or basement of the building may be required. This would require an area of approximately 440 SF at basement of first floor level.

The selection of service voltage, 277/480v or 120/208v, is dependent both on the requirement for a service vault and economic constraints for both electrical installation cost and floor area requirements for electrical distribution through the building.

Electric distribution equipment would include fused secondary switchboard, circuit breakers distribution and branch circuit panelboards interconnected with conduit and cable. For vertical office distribution, existing or new bus duct or cable feeders would be installed.

Lighting: In Museum areas lighting would reflect the historical nature of the space and also exhibit needs. Office space, which is on a particularly small scale, would be best served with 2' x 2' fluorescent troffers with parabolic lenses rather than conventional 2' x 4' fixtures.

Fire Alarm: A full high rise fire alarm system encompassing manual and automatic detection systems, voice and communication alarm systems would be integrated with other fire safety systems to control smoke exhaust and pressurization systems.

Emergency Generator: Emergency electrical services would be provided from a diesel driven generator. Service will be required for elevators, egress lighting, smoke exhaust and pressurization systems and other systems as required by Code.

Other Systems: Means for distribution of telephone data and other low voltage cabling through the building will be provided for maximized flexibility.

Boston Edison: Perhaps one of the most exciting aspects of Custom House Tower Associates redevelopment will be the continuation of the work which Boston Edison and William Lam Associates began in the fall of 1987. Custom House Tower Associates will work with both parties to refine the exterior lighting systems. Our plans include correcting the clock face illumination such that the clock hands are more readable during evening hours, illumination of the rotunda dome and additional lighting at the base of the building.

Structural Investigation

To date, CHTA has not been permitted to perform the limited demolition necessary to inspect the condition of the structural steel transfer trusses located in the Dome space and the condition of the relieving angles which tie the granite back to the structural steel of the building. We believe that the deleterious conditions which we have noted and asked permission to investigate are limited in scope; however, CHTA must reserve the right to perform these tests at a future time.

Code Compliance Issues

In comparison with its contemporary neighbors, the Custom House is a very small building. The costs of code-mandated upgrading of building systems will have a disproportionate impact on the feasibility of any proposed renovation. Recognizing this fact, Custom House Tower Associates entered into early discussions with the Inspectional Services Department of the City of Boston. In July 1987, two plans examiners accompanied Stanley Durlacher of the Trammell Crow Company on a walk-through of the building to become familiar with the existing conditions and to discuss areas of concern to them as code officials.

As a result of that meeting, concurrence was reached that the Custom House renovations would be governed by Article 22 of the Massachusetts State Building Code which deals with repair and alteration of existing pre-code structures. Under this Chapter, architects have greater flexibility in their choice of life-safety improvements than if they had to meet the letter of today's code. Use of Article 22 is subject to the following general stipulations set forth in the State Building Code's Appendix T:

- all hazardous conditions must be corrected;
- the existing building becomes the minimum performance standard; and
- the degree of compliance of the building after changes must not be below that existing before the changes.

Subsequent to that initial contact with Inspectional Services, Custom House Tower Associates prepared preliminary drawings following Article 22 guidelines and met again in September 1987 to review them with the City inspectors. What follows is an outline of the major topics addressed and the improvements proposed to meet code requirements. While we do not suggest that these have departmental approval, they have been

reviewed and are considered plausible responses to a very difficult compliance problem.

Occupancy Use Group: Since the Custom House was formerly a federal building and therefore exempt from City of Boston zoning, the building has no listed occupancy. In order to qualify for Article 22 treatment, proposed uses of the renovated building must not increase the current Hazard Index. Since its construction, the Custom House has been used for offices and recently it served as a federal tax court. Under the State Building Code these occupancies would be Business (B) and Assembly (A) respectively. The uses proposed for the building by Custom House Tower Associates include a museum in the 1847 portion, an Assembly use, and offices in the Tower, a Business use. The 25th Floor Observation Level will have limited public access--less than 50 people at any time--and so will qualify as a (B) Business use.

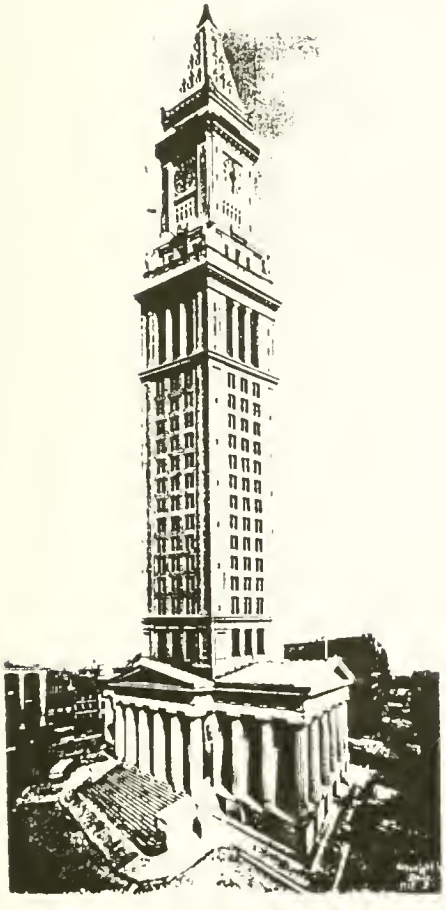
Type of Construction: Representatives of Inspectional Services who went through the Custom House in July 1987 noted that while the existing structure is technically of Type 1 "fireproof" construction consisting of steel framing encased in concrete, their preference was for treating the building as Type 2-A (Protected/Non-Conbustible) for purposes of future alterations. Therefore, any structural alterations will be of Type 2-A construction having the equivalent of a minimum of 1-3/8" cementitious covering on columns and 3/4" cementitious covering on beams.

Egress: The existing means of egress from the Custom House are below code in many respects, not all of which are subject to perfect remedy. For example, only one small stairway leads down from the 25th Floor Observation Level. Dual stairs begin on the 20th floor. However, neither meets code for size and neither is pressurized as required by the modern high-rise codes.

While it is impractical to alter the structure for code-complying stairs from top to bottom, Custom

House Tower Associates proposes a combination of new stairs and complementary life-safety enhancements to the existing stairways such that the overall safety of the building will be greatly increased. Chief elements of this upgrading are:

a) the addition of a second emergency exit stair located in the northeast corner of the Tower which will descend from the Observation Level to the 20th Floor where it will link up with the existing stair. This provides the second means of egress from Floors 21 through 25. Inspectional Services indicated that it would be preferable to employ a riser/tread relation identical to the existing stairs even though these are below code rather than vary stair style within a single stairwell. No winders will be used in the new stairs although they are found in the existing stairways to be reused.



b) the N.E. stair tower which now terminates at the Dome will be extended down to ground level using the non-complying size of the present stair for the sake of uniformity.

c) the existing S.W. stairwell which extends from the 25th Floor to the Ground Floor must be rebuilt between Levels 18 and 25 to accommodate the new configuration of the larger transfer elevator. Furthermore, this stair now empties into the Rotunda making pressurization impossible. Custom House Tower Associates proposes to close the bottom of this stairwell at the Fourth Level to permit pressurization and to seek variance for the open stair below.

d) all entrances to the emergency stairs will have new rated enclosures and doors to comply with today's codes.

e) the windows in the S.W. stairwell which look into Elevator Shaft #4 will be infilled with properly rated new construction.

Access for the Handicapped: As it stands, the Custom House is reasonably accessible to the handicapped visitor. Two areas which are not now accessible will be made so under the Custom House Tower Associates proposal: 1) the upper floors of the Tower (which now have a small stairway at the 18th Level transfer elevator) and 2) the Second Level where Peabody and Stearns introduced stairs between the elevators and the large rooms in the north and south wings.

Handicapped visitors to the Tower Offices will enter at grade from State Street and utilize the elevators to reach the business floors, each of which will have one handicapped accessible toilet for each sex.

Visitors to the Museum will normally enter via the great doors at the head of the exterior stairs. Handicapped visitors will enter from Central Street at grade into the Museum Shop and from there to the Tower Lobby to a new hydraulic elevator serving the Museum floors above.

The first level of the Museum is on a single level and presents no problems. Access to the Second Level Galleries is by the hydraulic level to the Rotunda balcony and from there by a small wheelchair lift to the Administration and Gallery level.

Accessible toilets are located off the Tower Lobby. Other accessible toilets will be provided at the Observation Level.

To reach the Observation Level, visitors must now squeeze into a tiny transfer elevator which runs between the 18th Floor and the 25th Floor. Custom House Tower Associates will replace this elevator with a larger unit with an accessible cab size.

Energy Code Compliance: As required under Article 22 of the State Building Code, alterations will comply with Table 2207. New components such as

windows and HVAC equipment will all meet current standards for thermal efficiency.

High-Rise Code (Section 431) Issues: Although the life-safety systems of the Custom House have been upgraded over the years, the building still falls short of modern codes for buildings over 70 feet in height. Where compliance is achievable, Custom House Tower Associates will correct deficiencies completely. When inherent qualities of the building defy correction, new supplemental systems will be installed and variances sought for the alternative solutions. A few of the important high-rise code issues are discussed below.

a) Sprinkler System: The Custom House has an existing automatic fire suppression system. This system will be retained throughout the Tower and the Museum. The existing undersized electric booster pump will be replaced with a properly sized unit. Exposed risers will be concealed. During the construction phase, the entire system will remain in operation.

In the Museum, the North and South wings will be completely sprinklered. However, the Rotunda with its great volume cannot be conveniently protected by sprinklers. As an alternative life-safety improvement, smoke detection systems will be installed.

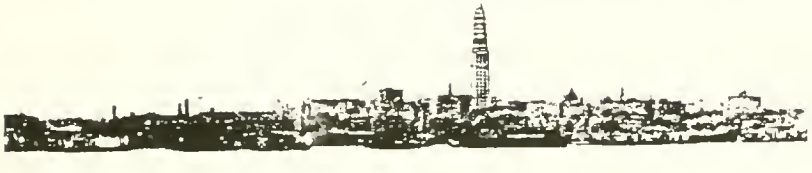
b) Smoke Evacuation: Smoke control systems do not currently exist within the building. Under this proposal, major improvements to smoke control will be added, including separation of the Tower Lobby from the Museum by a glass smoke barrier, pressurization of the egress stairwells and a large new smoke evacuation system dedicated to the Rotunda. This system will evacuate the large volume through the existing bronze grilles at the Third Level and discharge to the exterior through louvers behind the existing copper grillage at the base of the Tower. Fans will be located in the area above the Dome.

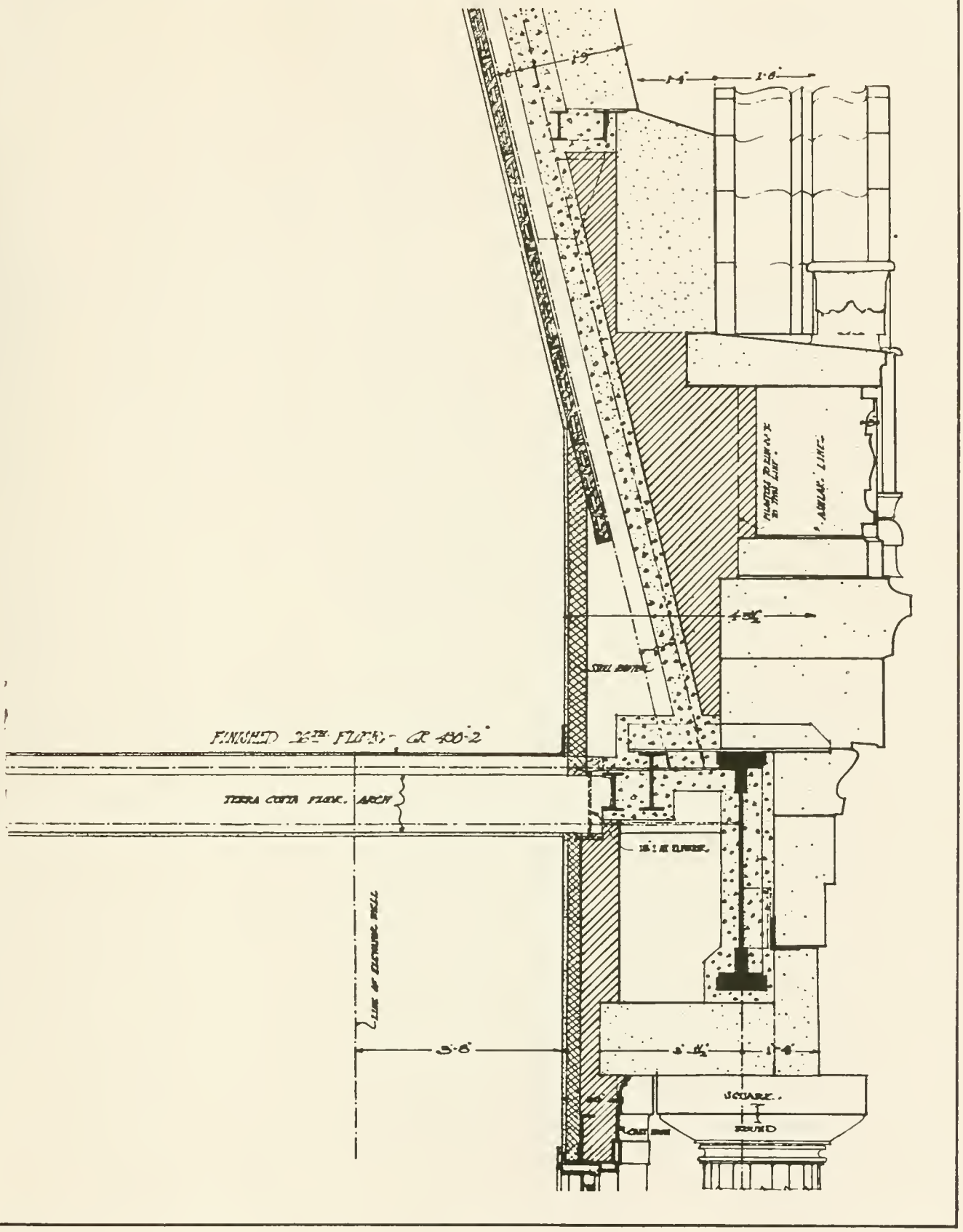
While stairwell pressurization will be complete for the Northeast stair, there appears to be no good way to

achieve comparable pressurization below the Third Level at the Southwest stair. Other measures will be explored with the City's Inspectional Services Department and variances sought.

Since the Tower floors have operable windows, no mechanical smoke removal is proposed for the business floors. While this approach technically requires variance, the impossibility of introducing new openings in the exterior walls (due to landmark status of the building) and the small floor areas (which make large vertical shafts not feasible) make a convincing case for code relief.

c) Emergency Power and Communications: New emergency systems will comply with Section 431.9 of the State Code. A new emergency generator of sufficient size to ensure the operations of the fire protection equipment will be installed. This will also power the mechanical pressurization and evacuation fans, an elevator, the emergency lighting, stairway door releases, annunciation and communications systems.





THE TOWER OFFICES

Concept

On floors 4-18, and 20-22 of the Custom House Tower, approximately 81,000 square feet will be redeveloped into first class office space for the smaller space user.

Smaller tenants seeking 4,000-8,000 square feet of prestige high-rise space have traditionally had to settle for short-term leases in larger tenants' expansion space. This situation has given the smaller user minimal or no build-out allowance, space not necessarily designed to meet their needs, no leverage with landlords, no long-term lease security, and no identity within their buildings. Our plan is to give these same tenants just the opposite - and in the most recognized building in the City's skyline. By offering floor plates and lease terms specifically tailored to meet the needs of these smaller first class office space users in a high-rise renovation, Custom House Tower will be the most desireable business address in the City of Boston.

Each Tower Office floor has 4,000 SF with unmatched views to the North, South, and East. As full floor users, Custom House Tower tenants will enjoy an identity that begins when the elevators doors open into their reception area. In addition, the building's structure can easily be used to provide contiguous floor occupancy to tenants requiring more than one floor. An exceptional tenant finish package will be provided to facilitate the creation of first class, luxurious office environments for Custom House Tower tenants.

Custom House Tower will offer the 4,000-8,000 square foot users of first class office space the previously unobtainable - identity within the building, leverage with the landlord, a landmark high-rise building, and most importantly, long-term lease security in the Central Business District. In addition, these firms will enjoy direct access to Custom House Square, the Custom House Museum of the City of Boston and its

function and meeting facilities as well as building management by the Trammell Crow Company.

Market Analysis

Boston's business community has been steadily absorbing the City's new office space at a rate averaging 1.8 million square feet per year over the past three years. This strong absorption led to a January 1988 vacancy rate in the Central Business District of only 8.8%, the lowest rate in four years.

With a projected absorption of between 1.5 and 1.6 million square feet in 1988 and approximately 1.9 million square feet of first class space coming on line, the vacancy rate should increase to a rate of between 9.0% and 9.5% by year end 1988. With continued absorption in the 1.5 million square foot range in both 1989 and 1990, but with decreased deliveries into the market of 1.6 million square feet in 1989 and 1.1. million square feet in 1990, we expect the first class vacancy rate to be in the 7.0% range as Custom House office space is delivered to tenants.

In examining the market for Custom House Tower, we looked at not only expected absorption but also achievable rental rates. As this is a tower, with one-of-a-kind views, and a landmark renovation, we consider tower rates more appropriate for comparison. In 1987 first class low rise renovations were achieving $32 per square foot for smaller users while towers commanded a $9 to $12 premium or approximately $43 per square foot. The trend towards higher rental rates in downtown Boston was clearly demonstrated during 1987, and was most evident in the second half of that year. Over the entire year, the approximately 1.3 million or 76% of the 1.7 million square feet absorbed, achieved a full service rate of over $35 per square foot. This trend was more pronounced in the July to December period when space renting at over $35 represented 950,000 square feet, or 107% of the total market absorption of 890,000 square feet. During this

same six month period, there was a negative absorption of 111,000 square feet in the under $30 category.

Given a 1987 achievable rental rate for tower space in the $43 range, a tightening of the market from an 8.8% vacancy rate in January 1988 to 7% by 1990 and allowing for a 4.25% annual rate increase through 1990, Custom House Tower Associates is confident that a $50 full-service rental rate for the Custom House office space is obtainable and the space readily leasable.

Description of the Tower Offices

Custom House Tower Office tenants will enjoy high visibility and full floor identity in a landmark setting with amenities that begin at curbside.

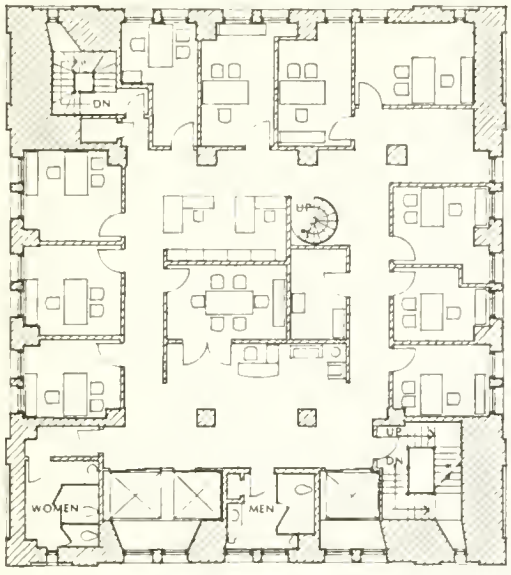
After being dropped off at the State Street turnaround, or leaving their car with the valet for parking, Custom House Tower Office tenants, their staff, clients and visitors will enter through the building's State Street entrance. Passing under the vaulted, arched ceiling of the entryway, and through the corridor of ancillary business use shops, one enters the Ground Floor or Tenant Rotunda Lobby. Above you, the Museum of the City of Boston Rotunda rises and the walls around you display murals highlighting the Museum's current exhibit offerings. Entry through the Tenant Lobby, past the elegant security kiosk and to the elevators is dramatic and secure. A 24-hour guard assures that only tenants and their visitors and clients gain access to the Tower Offices. Further facilitating tenant security is the installation of controlled card access readers.

The Tower Offices will be serviced by three new, hi-rise elevators with interiors mirroring the Custom House's fine architectural character and detail. Tenants and visitors alike will also enjoy the City's western views visible through these glass backed elevators.

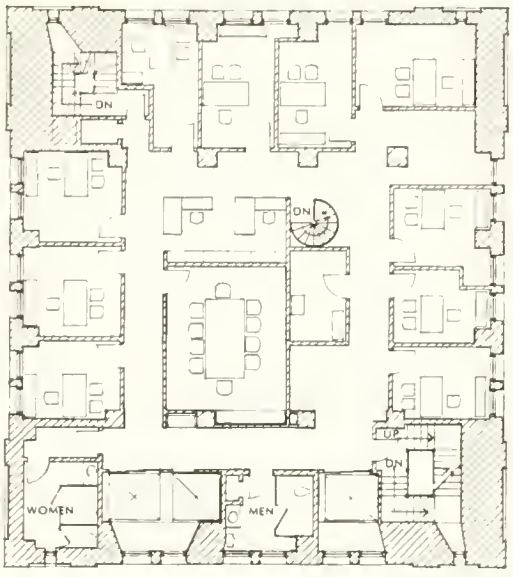
Typical office floors consist of approximately 4,000 square feet and offer magnificent views to the North, South and East through the 8' x 9' pairs of windows.

With benefit of a generous finish-out allowance, Tenants will be able to tailor space to meet their particular requirements. Their identity will extend from the elevator doors forward through the floor's elevator lobby, restrooms and general office area. For tenants with contiguous floors, interior access is readily accomplished through installation of controlled access card readers on the existing stairwell doors.

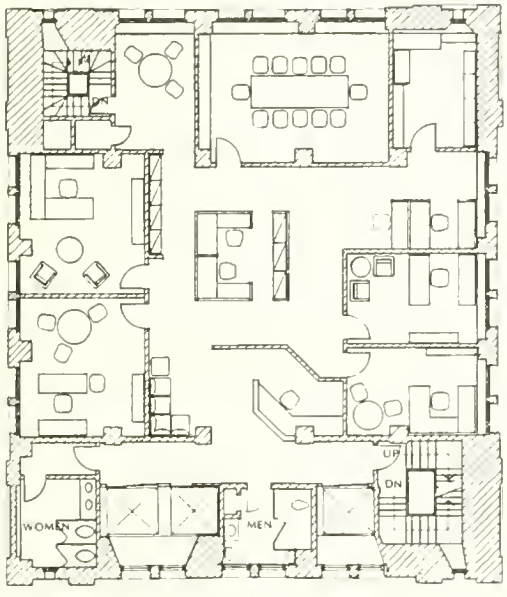
In addition to valet parking, a dramatic entry lobby with security guard, three new hi-rise elevators and the ability to tailor space to a firm's particular needs, Tower Office amenities include in-house function space. Meetings for up to twenty-five people can be readily accomodated within the Museum's 24th floor meeting areas, or, for larger groups or functions of up to 150, accomodations are available on the 1st floor of the Museum. Meetings, conferences, luncheons, and after-hours functions can all be accomodated through arrangement with the building management office.



TWO FLOOR TENANT – LOWER LEVEL



TWO FLOOR TENANT – UPPER LEVEL



SINGLE FLOOR TENANT

0 4 8 16 32

UPPER FLOOR PLANS

ANALYSIS OF RENTABLE AREA - BOSTON CUSTOM HOUSE DATE: 29 JANUARY 1988

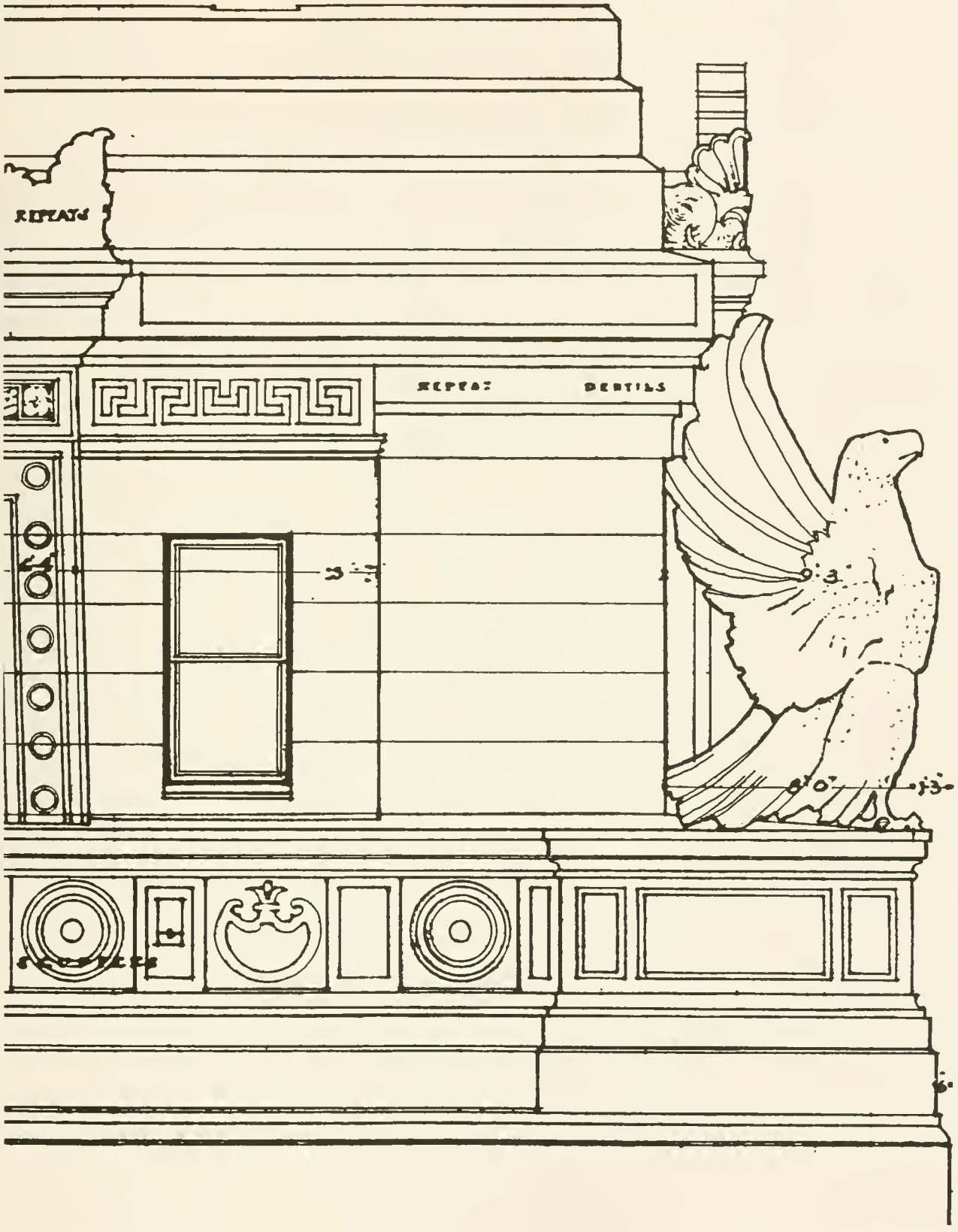
FLOOR #	(1) GROSS SF	(2) PRORATED AREA (see 3)	(3) SHAFTS & STAIRS (see 1)	(4) STRUCTURE & EXCLUDED	(5) USEABLE (MUSEUM) (1-(2+3+4))	(6) USEABLE (TENANTS) (1-(2+3+4+5))	(7) PRORATE ADD (see 2)	(8) NET RENTABLE (6 + 7)	FLOOR #
Basement	16745	14177	562	0	2006	0	0	0	Basement
Ground	10924	7114	556	0	1628	1626	849	2475	Ground
1	8515	0	795	2912	4808	0	0	0	1
2	8580	0	1904	2315	4361	0	0	0	2
3	9940	0	2543	5316	2081	0	0	0	3
Dome	4020	2128	1892	0	0	0	0	0	Dome
4	4148	437	462	0	0	3249	1696	4945	4
5	4148	437	462	0	0	3249	1696	4945	5
6	4148	437	462	0	0	3249	1696	4945	6
7	4148	437	462	0	0	3249	1696	4945	7
8	4148	437	462	0	0	3249	1696	4945	8
9	4148	437	462	0	0	3249	1696	4945	9
10	4148	437	462	0	0	3249	1696	4945	10
11	4148	437	462	0	0	3249	1696	4945	11
12	4148	437	462	0	0	3249	1696	4945	12
13	4148	437	462	0	0	3249	1696	4945	13
14	4148	437	462	0	0	3249	1696	4945	14
15	4148	437	462	0	0	3249	1696	4945	15
16	4148	437	462	0	0	3249	1696	4945	16
17	4148	437	462	0	0	3249	1696	4945	17
18	3358	273	524	0	0	2561	1337	3898	18
19	3528	3191	337	0	0	0	0	0	19
20	2304	550	418	0	0	1336	698	2034	20
21	2233	804	345	0	0	1084	566	1650	21
22	1892	224	296	0	0	1372	716	2088	22
23	1969	0	297	487	1185	0	0	0	23
24	2104	0	326	397	1381	0	0	0	24
25	1345	0	187	588	570	0	0	0	25
26	1350	1299	51	0	0	0	0	0	26
27	810	810	0	0	0	0	0	0	27
28	400	400	0	0	0	0	0	0	28
29	169	169	0	0	0	0	0	0	29
30	64	64	0	0	0	0	0	0	30
TOTALS	138322	37321	17501	12015	18020	53465	27913	81378	

NOTES:

1) Shafts and stairs includes areas of holes in floors in Rotunda and Commissioner's Office

2) Prorate Add is each tenant floor's pro rata share of the tenants' share of the prorate area in the building.

Figure 8: Analysis of Rentable Area



FINANCIAL INFORMATION

Financial Structure

Until ground lease terms and other arrangements with the City and the BRA have been negotiated, the financial structure of this transaction cannot precisely be established. However, as the proforma statements included herein show, Custom House Tower Associates currently intends to prepay all amounts due from the City of Boston to the GSA. Provision has been made for interest on funds to be borrowed to make this prepayment.

Figure 9: Commercial Development Pro Forma

Note: All estimates in 1988 dollars.

Total Hard Costs		**$13,584,900**
Rehabilitation ($68.54/GSF)	$9,190,000	
New Construction		
Parking ($0/space)		
Site Improvements ($0.60/LSF)	325,000	
Tenant Improvements	4,069,000	
Office $50/NSF		
Retail $50/NSF		
Total Soft Costs		**$5,680,000**
Architect/Engineering	$694,000	
Marketing/Brokerage/Advertising	1,249,500	
Developer's Overhead	1,041,000	
Legal	278,000	
Permits & Fees	25,000	
Construction Loan Interest (14 mos @ 9.25% on average balance of $15.5 M)	1,586,000	
Financing Fees (Permanent & Construction)	352,500	
Real Estate Taxes and Linkage during Construction (14 mos)	454,000	
Contingency (10% of hard costs)		**$903,000**
Total Development Cost		**$20,167,900**
Soft Costs as % of Hard Costs	42%	
Soft Costs as % Total Development Cost	28%	
Total Development Cost/GSF	$145.80	

Note: Redeveloper's costs do not include mortgage payments to GSA since redeveloper's present plans are to prepay the note due the GSA. Interest on funds borrowed to make such prepayment is included in the figure for Construction Loan Interest.

Figure 10: Commercial Development Program & Operating Pro Forma

COMMERCIAL DEVELOPMENT PROGRAM

Total Gross Square Footage		**138,322 SF**
Office	67,859	
Retail	2,475	
Other (Museum)*	36,510	
Parking	N/A	
Mechanical and Prorate	31,478	
Total Net Square Footage		**98,210**
Office	78,900	
Retail	2,475	
Other	16,835	
Conference @ 1,951		
Museum @ 14,884		

COMMERCIAL OPERATING PRO FORMA

Commercial Income (Base Year; see attached 10 year pro forma)		
Office (81,375 NSF @ $49.36/NSF)	$4,016,670	
Retail (included in Office)		
Parking	$0.00	
Other (1,951 NSF @ $51.26/NSF)	$100,000	
(Conf & Reception on 24th & 25th Fls)		
Potential Gross Income		**$4,116,670**
Vacancy (@ 5%)		**($300,799)**
Effective Gross Income		**$3,815,871**
Operating Expenses		**($742,997)**
Office ($9.27/NSF)		
Retail ($9.27/NSF)		
Parking		
Other ($9.27/NSF)		
Includes Property Taxes and all components:		
Office, Retail and Conference/Reception		
NET OPERATING INCOME		**$3,072,874**

Figure 11: Conceptual Estimate of Shell Building Costs

	TOTAL COST	COST PER GSF (138827)	COST PER RSF (81378)
Asbestos Removal	$295,000	$2.12	$3.63
Demolition	898,280	6.47	11.04
Sitework (see Note 1)	325,180	2.34	4.00
Building Excavation	48,827	0.35	0.60
Foundations	53,704	0.39	0.66
Building Structure	306,948	2.21	3.77
Roofing & Moisture Protection	266,952	1.92	3.28
Stairs & Miscellaneous Metals	180,970	1.30	2.22
Rough Carpentry	25,557	0.18	0.31
Building Subdivision	506,664	3.65	6.23
Interior Finishes	515,776	3.72	6.34
Specialties and Furnishings	258,660	1.86	3.18
Equipment	5,700	0.04	0.07
Elevators	1,018,000	7.33	12.51
Plumbing	163,000	1.17	2.00
Fire Protection	123,000	0.89	1.51
HVAC	936,000	6.74	11.50
Electrical	828,000	5.96	10.17
Building Automation	30,000	0.22	0.37
General Conditions	636,340	4.58	7.82
Subtotal of Hard Costs	**$7,687,311**	**$55.37**	**$94.46**
Contingency @ 15%	$1,153,097	$8.31	$14.17
Subtotal	**$8,840,408**	**$63.68**	**$108.63**
Construction Management Fee @ 4.5%	$397,818	$2.87	$4.89
Total Shell Hard Costs	**$9,238,226**	**$66.54**	**$113.52**

Note 1: For a detailed explanation of all improvements which this budget represents, please refer to the Preservation, Urban Design and Redevelopment chapter of the Proposal. This total includes $205,000 work of costs associated with sitework improvements indicated on the Site Plan which are not part of the Custom House parcel. The CHTA sitework budget is not sufficient to cover the entire scope of improvements indicated on the plans and additional funding sources will be sought to complete the indicated plans.

Ten Year Operating Proforma - U. S. Custom House

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Revenue										
Occupancy (%)	49%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Total SF Available	81,375	81,375	81,375	81,375	81,375	81,375	81,375	81,375	81,375	81,375
Total SF Leased	39,670	77,306	77,306	77,306	77,306	77,306	77,306	77,306	77,306	77,306
Rent per SF/YR	$49.36	$49.36	$49.36	$49.36	$49.36	$63.65	$63.65	$63.65	$63.65	$63.65
Annual Rental Revenue	1,958,145	3,815,871	3,815,871	3,815,871	3,815,871	4,897,132	4,897,132	4,897,132	4,897,132	4,897,132
Expenses										
Operating Expenses	279,727	386,531	405,858	426,151	447,458	469,831	493,323	517,989	543,888	571,083
Real Estate Taxes	347,772	356,466	347,772	347,772	347,772	347,772	347,772	347,772	347,772	347,772
Net Operating Income	**1,330,646**	**3,072,874**	**3,062,242**	**3,041,949**	**3,020,641**	**4,079,529**	**4,056,037**	**4,031,371**	**4,005,472**	**3,978,277**

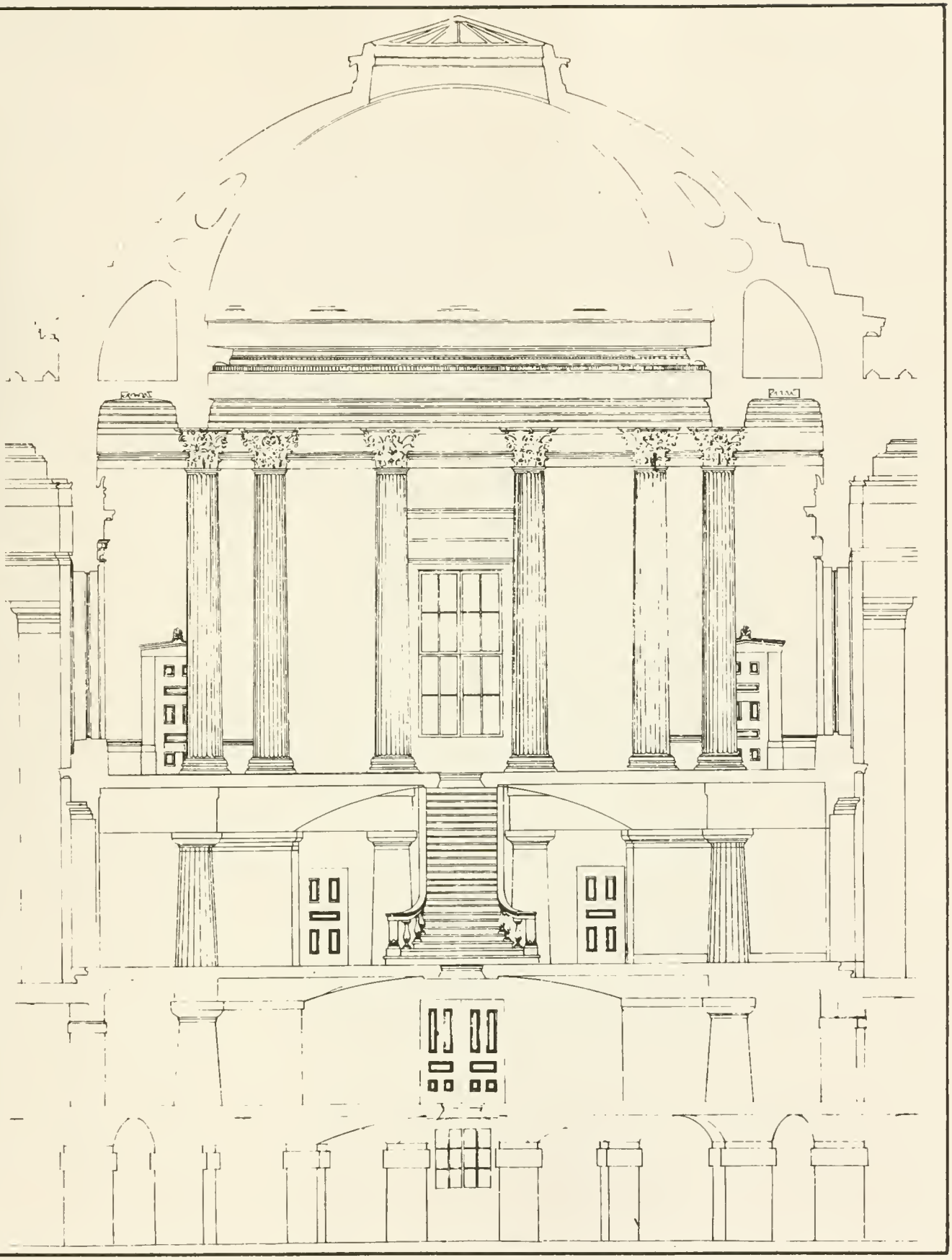
Notes

1) Rent per SF: Years 1-5: Average annual gross lease rate is based on a triple net rate of $40.09 and a tax and expense stop totaling $9.27.
Years 6-11: The base year rate is increased at an annual rate of 5%.

2) Operating Expenses and Real Estate Taxes:

Years 1-5 are based on projections using current rates.
Years 6-11 are projected using a 5% annual increase for operating expenses and a 2.5% annual increase for taxes.

Figure 12: Ten Year Pro Forma - U. S. Custom House



DEVELOPMENT TEAM

Introduction

Custom House Tower Associates offers the City of Boston a team with the imagination, talent and financial strength to ensure that its proposal for the Custom House will succeed and that the final result will be of the highest distinction in every respect.

The following paragraphs introduce the members of the Development Team and present brief resumes of the people who will be responsible for the design and development work.

The Development Team

Custom House Tower Associates was formed in 1986 as a joint venture of the Trammell Crow Company and James B. White Partners, to compete for the right to redevelop the U. S. Custom House in Boston. The collaboration is a particularly appropriate one for this unique and demanding venture. Trammell Crow has an outstanding reputation and years of successful development experience throughout the United States. James B. White Partners, consisting of members of the hundred-year-old Boston law firm of Palmer & Dodge, provides strong expertise in the requirements of building and renovating in Boston.

Trammell Crow Company

Trammell Crow Company, named for its founder, was established in Dallas, Texas in 1948. In the forty years since, the Company has grown to be recognized as the largest and most diversified, private real estate development firm in the U.S. With more than $13 billion in assets, Trammell Crow Company owns and manages some 200 million square feet of commercial property through its 90 U.S. and 4 international offices.

The Company attributes its continued growth and public recognition to its decentralized structure and the deep commitment its Partners make to the communitities that they serve. All Partners live in the markets in which they develop projects in order to better understand. They

are committed not only to the success of their developments but also to the communities' betterment.

In response to the vitality of the New England market, the Trammell Crow Company established its Boston office in 1983. In the past five years, the office has developed a portfolio of projects totalling some 2.5 million square feet . The Boston office has received praise for the sensitivity and attention to detail demonstrated in both its downtown Boston and surburban projects in Andover, Bedford, Westboro, Billerica, and Burlington. Current developments include 745 Atlantic, a 10-story, 168,000 square foot office building on Boston's historic South Street, and Burlington Centre, a 650,000 square foot mixed-use project in Burlington and suburban office projects in Andover, Bedford, Billerica and Westboro.

Though known also for its new developments, such as the LTV/Trammell Crow Center in Dallas, and The Galleria in Atlanta, the Trammell Crow Company is currently restoring two National Landmark buildings in the Washington, D.C. area - the Ammendale Normal Institute in Bettsville, Maryland, and the Forrest-Marbury House, which is the oldest historic Landmark in the Nation's capitol. The sensitivity with which the Forrest-Marbury House redevelopment was undertaken is mirrored in the Boston office's 745 Atlantic project. Striving to develop a building that would blend and complement the historic architectural and neighborhood fabric at hand, the Company has received acclaim for 745 Atlantic. Similar community support for a Trammell Crow Company plan was seen at the January 25, 1988 Burlington Town Meeting where approval was voted for Burlington Centre, the town's first application of its new Planned Development District.

The Company's commitment to a community goes far beyond building materials, design and development issues as witnessed in its instrumental role in developing the Arts District in Dallas, Texas, From supplying equipment and labor to fundraising to events management, the Trammell Crow Company has been influential in the development and growing success of the Arts District. Seen as a key to

revitalizing downtown Dallas after hours, the Arts District hosts exhibits, concerts, dance festivals and more. In Boston, the Dallas Market Center Company, an affiliate of the Trammell Crow Company, consigned the last casting of Rodin's Cybele to decorate the entry plaza of the Boston Design Center. In addition to the Company's involvement in such projects as the Arts District, Mr. Crow's love for the arts is well known. An active benefactor of the Dallas Museum of Art, he has amassed a large art and sculpture collection. The Boston office mirrors this commitment to the arts in its support of the Boston Ballet and Boston Symphony.

The Trammell Crow Company executives responsible for the revitalization of the Custom House have roots in the Boston area, recognize the importance of this building to the City and are committed to the success of this project:

Arthur DiMartino: Mr. DiMartino, partner in charge of the Trammell Crow Company Boston office, began the office in 1983. A graduate of Brown University and the Wharton School of Business, he is responsible for all Trammell Crow Company projects in New England. In his thirteen years with the Company, Mr. DiMartino has overseen the development of more than 4 million square feet of office and industrial space. In addition to sponsorship of the Boston Ballet and Boston Symphony, Mr. DiMartino coaches Little League Baseball.

Michael Gangemi: Mr. Gangemi, a native of the Boston area, currently lives on the Fenway. After graduating from Babson College with a B.S. in Management, he joined Coopers & Lybrand in Boston as a C.P.A. Mr. Gangemi is a graduate of the University of Virginia's Colgate Darden School of Business and has worked for the Trammell Crow Company in Richmond, Virginia, and currently, in Boston. Mr. Gangemi is responsible for leasing of the Company's projects in Andover, Billerica and Burlington.

Stanley H. Durlacher: With over fifteen years experience in commercial design and construction including management responsibility for the historic

restoration of one of Boston's largest buildings, Mr. Durlacher will serve as Project Manager for the Custom House revitalization.

Mr. Durlacher's first major project in Boston was the redevelopment of Commonwealth Pier 5 for Fidelity Management and Research Corp. As Director of Design and Construction for the project, he was responsible for the preservation of this 850,000 square foot structure which is listed in the National Register of Historic Places. The property's redevelopment entailed a rigorous local and national review process encompassing the Heritage Conservation and Recreation Service of the U.S. Department of the Interior, the Massachusetts Historical Commission and the Boston Landmarks Commission. In 1985, the project was awarded its Investment Tax Credit for historic rehabilitation under the Historic Preservation Tax Credit Act.

Subsequently, Mr. Durlacher served as Project Manager for the conversion and redevelopment of Sections E & F, Building 114 in the EDIC's Boston Marine Industrial Park. This 550,000 square foot portion of the abandoned Army warehouse in South Boston was successfully converted into the prestigious Boston Design Center that opened in 1986.

Currently, Mr. Durlacher is directing the design and construction of 745 Atlantic for the Trammell Crow Company.

At the request of the Board of Directors of the Boston Ballet, Mr. Durlacher recently volunteered to serve as Construction Advisor to the Board with regard to the reconstruction of the Historic Pennock Building in Boston's South End.

Mr. Durlacher is a graduate of Washington University in St. Louis and received his M.B.A. from Boston University.

Deana Montgomery: Ms. Montgomery has been active in the Boston real estate community since receiving her Bachelor of Arts degree from the College of the Holy

Cross in 1980. Having worked with Saunders & Associates and later, with Cohen Properties on the redevelopment of the RiverHouse, she joined the development team of the Boston Design Center as Tenant Coordinator. Currently, Ms. Montgomery is the Tenant Coordinator for 745 Atlantic.

James B. White Partners

James B. White has practiced law in Boston since 1965. He has been a partner with Palmer & Dodge since 1974 when he joined that firm to help it establish a real estate practice. During his legal career Mr. White has worked on major real estate projects throughout the United States. In Boston he has represented private-sector interests on projects such as Harbor Towers, Lafayette Place, Post Office Square Park/Garage and Pier 4/Fan Pier. He has represented public-sector interests of the City of Boston and the Boston Redevelopment Authority on projects such as Rowes Wharf, Marketplace Center and International Place. As an investor and principal Mr. White has been involved in various real estate transactions in Massachusetts.

Mr. White has been a member of both the Massachusetts and Boston Bar Associations and has served as chairman of the Wayland, Massachusetts Planning Board. He is currently a Director of the National Realty Association in Washington, D.C., and a member of the Advisory Committee for the Center for Real Estate Development of the Massachusetts Institute of Technology. For several years he has been a director of Boston's Handel and Haydn Society.

A native of Haverhill, Massachusetts, he graduated from Tufts University (1962) and Columbia University Law School (1965). Currently, Mr. White is a Master's Degree candidate at the John F. Kennedy School of Government at Harvard University. A resident of Lincoln, Massachusetts, he is married and has three children.

Mr. White is responsible for creating Custom House Tower Associates and for convening the Museum Advisory Board which has guided and shaped the character of the proposal for the Custom House Museum of the City of Boston.

The Architectural Team

Dean Tucker Shaw, Inc.

Dean Tucker Shaw, Inc. is a 40 person Boston architectural firm which has earned a reputation for design excellence and technical innovation in restoration and reuse as well as in new construction. The scope of the projects undertaken by the firm is wide, encompassing substantial hospital and other medical/technical work, space planning and interior design for important institutional clients. Dean Tucker Shaw is currently renovating two buildings on Boston's Newbury Street and the City of Boston's Old School Department Building on Beacon Street. The latter building is similar to the Custom House in its scope and size: all the building's systems are programmed for replacement and the exterior for extensive restoration. Even the floor plates of the two structures are similar to the Custom House and require unusually efficient space planning.

Through its subsidiary, Construction Contract Consultants, Dean Tucker Shaw has provided technical consulting and construction specifications for major public projects, including the restoration of Ellis Island, the Bunker Hill Monument and the Springfield Armory.

Members of Dean Tucker Shaw who will have direct managerial and design responsibility for the Custom House are:

Stephen Tucker: Mr. Tucker is a Principal of Dean Tucker Shaw as well as of Construction Contract Consultants which he founded in 1977. He has long been active in the technical side of building renovation and conservation and the experience he possesses in building materials and restoration techniques will be invaluable in addressing the conservation and redevelopment of the Custom House. Mr. Tucker will be Project Manager for the entire architectural team and responsible for coordination of all designers and engineering consultants at both firms.

Mr. Tucker's experience also includes responsibility for the design of significant projects within historic structures including restoration of the Senate Lobby at the

Massachusetts State House in the Bullfinch portion of that building. His design work has received national awards and has been cited by the Boston Society of Architects for excellence.

Mr. Tucker is a graduate of Harvard College (1963) and the Harvard Graduate School of Design.

Andrew Dean: A Principal of Dean Tucker Shaw, Andrew Dean's background includes responsibility for major planning efforts such as for the National Cemetery at Bourne, Massachusetts, where he managed a five firm joint venture responsible for the work. Mr. Dean has also designed important historic restoration/re-use projects including portions of Market Mills at the National Historic Park in Lowell. and renovations and historic restorations to the Old South Meeting House. He was also in charge of the renovation and reuse design for the historic Hildredith Building, also in Lowell. Mr. Dean is responsible for the interior design for many of Boston's leading legal and financial firms and has received national design awards for his work. He will serve as Principal-in-Charge for Dean Tucker Shaw's planning and design work on the inside of the Custom House.

Mr. Dean is a native of Boston and a graduate of Brown University (1962) and the Harvard Graduate School of Design. He is an active member of the National Trust for Historic Preservation.

Gregory Crawford: An Associate at Dean Tucker Shaw, Gregory Crawford is a highly experienced manager of renovation, space planning and interior architecture. While with Dean Tucker Shaw, Mr. Crawford has been responsible for nearly 500,000 SF of downtown Boston high-rise interior renovation for professional and institutional clients. On the Custom House project, Mr. Crawford will have day-to-day responsibility for the design of the Tower Offices and ancillary spaces. He holds both a B.Arch and a BES from the University of Waterloo, Ontario, Canada.

Elinore Charlton: Elinore Charlton is Director of Technical Services at Dean Tucker Shaw. In addition to being a Certified Construction Specifier, she has an excellent background in existing conditions surveys and historic restoration work. Ms. Charlton wrote the building conditions survey, the historical inventory and the program for preservation and restoration for recent renovations to the Boston Public Library (McKim Mead & White), as well as leading the restoration team for work at the National Park Service's Springfield Armory National Historic Site and at the Bunker Hill Monument and Lodge. She has written extensively on technical topics. Ms. Charlton will be in charge of preparation of technical documents and restoration contract administration on the Custom House. A graduate of Wellesley College, Ms. Charlton received her Master of Architecture from the Harvard School of Design.

Recognizing the importance of the Custom House project, Dean Tucker Shaw invited the nationally recognized historic preservation/reuse firm of Beyer Blinder Belle to join them on the architectural/planning team. Mr. Tucker is currently working with Beyer Blinder Belle on the Ellis Island restoration.

In this joint venture, Dean Tucker Shaw will provide the overall management services, interior space planning, building systems planning and construction administration for the Custom House while Beyer Blinder Belle will concentrate on the urban design and historic restoration of the exterior and the landmark spaces.

Beyer Blinder Belle

Since its founding in 1968, Beyer Blinder Belle has been recognized for excellence in the design of new buildings, the preservation and restoration of existing buildings and the planning of major mixed-use developments.

The staff of Beyer Blinder Belle is made up of approximately 140 skilled architects, planners, and historic preservationists. In recent years, the firm has restored many important national monuments, perhaps the most famous of which is the Main Building at Ellis Island which

is part of the Statue of Liberty|Ellis Island National Park. Soon to reopen in restored splendor, this most significant American monument will incorporate a national museum of immigration with exhibits, theaters and computerized genealogy center.

The firm has the oldest and largest department of historic preservationists in the country. Some of the projects it has directed include:

- The South Street Seaport Museum Block involves architectural services for the restoration of 13 historic buildings and infill design for the New Bogardus Building. Mixed use of the Museum Block includes exhibit space, administrative offices for the Museum, retail and commercial office space and restaurants. Since its opening in 1982, this project has received 8 design awards.

- The Ellis Island Main Building, consisting of 220,000 square feet, is one of the most historically significant buildings in America. It is being restored and renovated for use as a national museum of immigration, complete with exhibits, theaters, and a computerized genealogy center.

- The Denver Center for Performing Arts involves architectural services for the restoration and rehabilitation of two auditoriums, galleries, parking garages and adjacent public spaces and the design of a central galleria.

- The Delaware Aquaduct involves restoration of an historic aquaduct originally designed by John Roebling, for current use as a vehicular bridge in the Upper Delaware River National Park.

Senior staff members of Beyer Blinder Belle who will take part in the Custom House project are:

John Belle: A Partner in the firm and a nationally recognized leader in urban design and historic preservation, John Belle will be the Principal-in-Charge for Beyer

Blinder Belle and, as such, will be directly responsible for the urban design and preservation/restoration of the Custom House.

Mr. Belle is a Fellow of the American Institute of Architects and the past Chairman of the Graduate Department of Urban Design and the School of Architecture at Pratt Institute. He is Vice President of the Board of the New York Landmarks Conservancy and the Partner for the Ellis Island project. He is Past President of the New York Chapter of the AIA and was Chairman of the AIA's National Committee on Urban Design and Planning from 1982 to 1984.

James Marston Fitch: Principal and Director of Historic Preservation at Beyer Blinder Belle, Dr. Fitch is the leading national authority in the field of historic preservation. He establishes Beyer Blinder Belle's approach to historic preservation, and is responsible for all aspects of historic preservation, restoration and district planning. He will be responsible for the overall direction of the conservation work for the project.

He is the author of *American Building: The Historical and Environmental Forces that Shape It* as well as *Historic Preservation: Curatorial Management of the Built World*. Dr. Fitch founded the Graduate Programs in Historic Preservation at Columbia University and at the University of Pennsylvania.

John Stubbs: Mr. Stubbs is an Associate and Senior Preservationist at Beyer Blinder Belle. A former Historical Architect with the U. S. Department of the Interior and Assistant Professor at Louisiana State University, Columbia University and the University of Pennsylvania, John Stubbs has written over twenty professional papers on historic preservation. He will direct the Custom House redevelopment, in particular the conservation of the exterior and the landmarked interior portions of the building.

Page Ayres: Ms. Ayres will function as the Project Manager for Beyer Blinder Belle's historic restoration and

technical work on the Custom House. She is a registered architect, a member of AIA, the RIBA and is currently working on restoration of the NYC Yacht Club in New York City.

Museum Programming

Cia Mooney Design

Since 1978 Cia Mooney has developed and designed exhibitions for science centers, childrens' museums and corporations. She has served as Project Designer on nationally recognized projects including exhibitions for the Aerospace Museum in Los Angeles, California, and the Maryland Science Center on Baltimore's Inner Harbor.

Ms. Mooney recently completed the highly acclaimed exhibits for the Science Discovery Museum in Acton, Massachusetts, in collaboration with Don Verger. She has also created consumer product designs for numerous corporations including Corning Glass Works and Delta Machinery Corporation.

Ms. Mooney is a corporate member of the New England Museum Association and the Industrial Designers Society of America. She has served as Part-time Faculty in Museum Planning and Design at the Rhode Island School of Design.

An honors graduate of Pratt Institute, Ms. Mooney currently resides in Boston's Fort Point Channel area.

Leasing and Brokerage

Agababian Associates

Ronald H. Agababian, President of Agababian Associates, established his company in Boston in January 1987. With over 12 years experience in commercial real estate brokerage and real estate consulting, he specializes in office space leasing.

Prior to forming his company, Mr. Agababian was a broker with Williams Real Estate Company, one of the largest real estate firms in Manhattan. In 1984, he became Vice President and Manager of the Julien J. Studley office in Boston. Mr. Agababian began his career in the

Washington D.C. office of Julien J. Studley, upon receiving his Bachelor of Science degree from Georgetown University(1974).

Mr. Agababian is a member of the Greater Boston Board of Realtors and the Back Bay Association. He lives in Boston's Back Bay.

Legal Counsel

Palmer & Dodge

Palmer & Dodge was established in Boston in 1887. From its inception it has provided general legal services to the business community. In addition, the firm has maintained a commitment of its time and resources to advance civil rights of the disadvantaged and to promote civic and charitable activities in the Greater Boston area.

Lawrence S. DiCara
DiCara, Selig, Sawyer & Holt

A partner in DiCara, Selig, Sawyer & Holt, Lawrence S. DiCara specializes in real estate and administrative law. He is a member of the American, Massachusetts and Boston Bar Associations. He currently chairs the Urban Affairs Section of the Boston Bar Association.

From 1972 through 1981, Mr. DiCara served as a member of the Boston City Council. When first elected at the age of 22, he was the youngest person ever elected to city-wide office in the City of Boston. When chosen by his colleagues as President of the Council in 1978, he was the youngest person ever so designated. For four of his ten years on the Council, he chaired the Committee on Planning and Development.

Long active in civic and charitable endeavors, Mr. DiCara serves as an Overseer of the New England Medical Center, a director of The Harvard Cooperative Society, Rogerson House, and The Robert F. Kennedy Action Corps. He is President of The Greater Boston Council, Boy Scouts of America and of The Boston Theater District Association.

Mr. DiCara is a lifelong resident of the Dorchester section of the City of Boston, attended Boston Public Schools and graduated as President of his class at Boston

Latin School. In 1971 he graduated cum laude from Harvard College. He also has degrees from Suffolk Law School and The John Fitzgerald Kennedy School of Government, Harvard University.

Lashley & Company

Lashley & Company is a Boston-based marketing communications company, founded in 1986, providing a wide range of clients with public relations, communications services and counseling. Formerly marketing director of the City of Boston, Averil Lashley has 20 years of management-level communications experience with strong expertise in public and community relations for real estate developers. As the former Marketing Director for Boston, she is especially aware of the need for a Museum of the City of Boston. A graduate of Vanderbilt University, Ms. Lashleyshe is a former board member of the Boston Advertising Club and the Massachusetts Cultural Alliance. She lives in Boston.

R.G.Vanderweil Engineers

Established in 1947, Vanderweil Engineers is renowned among archiects, and commercial, industrial, institutional and governmental clients for its building services design capabilities. Services include HVAC systems analysis and design, lighting and electrical systems design, sanitary and utility systems design , fire protection, and air and water pollution control.

The firm's extensive experience in historic and renovation design includes the following projects: Massachusetts State House Renovation, Boston, MA; John Hancock Clarendon Building, Boston, MA; Harvard University, Sever Hall, Cambridge, MA; Baltimore City Hall, Baltimore, MD; Boston Design Center, Boston, MA; and, Auguste St. Gaudin's Residence, Cornish, NH.

Bruce MacRitchie, Associate with the firm, will direct Vanderweil Engineering's program for the Custom House redevelopment.

LeMessurier Consultants

A consulting engineering firm formed in 1961, LeMessurier Consultants has provided structural engineering consultation to architects on a wide variety of buildings and structures throughout the world. Guided by three Professional Engineer Partners and eleven Associates, the firm's experience includes a wide variety of high rise and long span building structures, commercial, monumental, educational, housing, health care, and public projects.

The firm has had substantial experience with rehabilitation work and the design of museums and similar structures. Projects of this type in their portfolio include: Wang Center for the Performing Arts, Boston, MA; Old State House, Boston, MA; Norwalk Aquarium and Museum, Norwalk, CT; Boston Museum of Fine Arts, Boston, MA; San Antonio Museum of Art, San Antonio, TX; Institute of Contemporary Art, Boston, MA; and Bulfinch Square/East Cambridge Courthouse, Cambridge, MA.

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